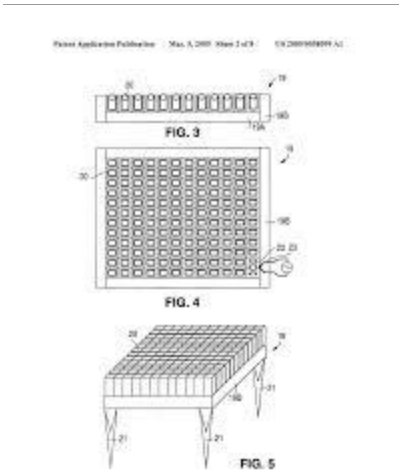
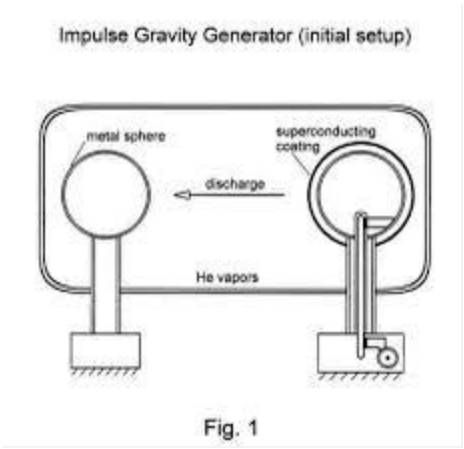
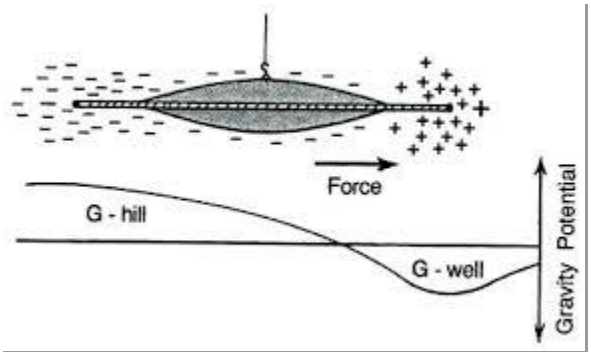
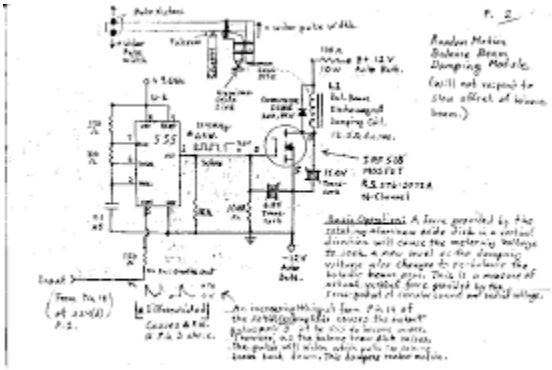
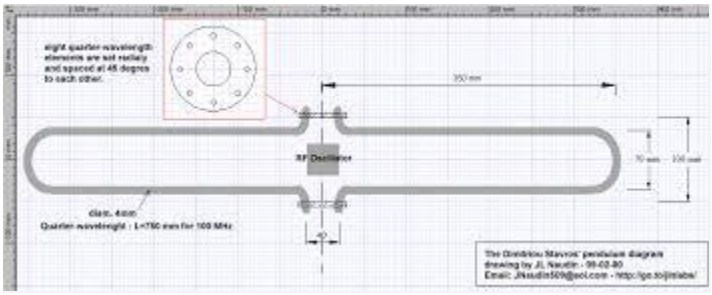
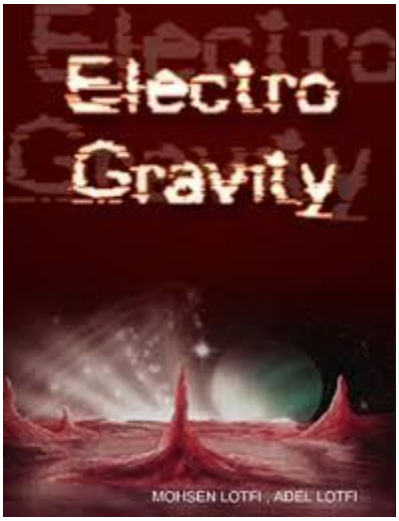

FIG. 3
FIG. 4
FIG. 5

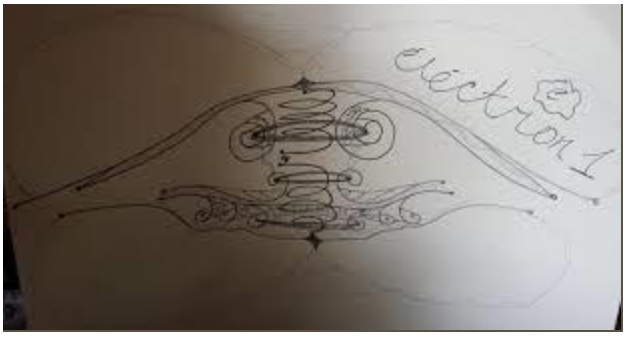

Impulse Gravity Generator (initial setup)
metal sphere
superconducting coating
discharge
He vapors
Fig. 1

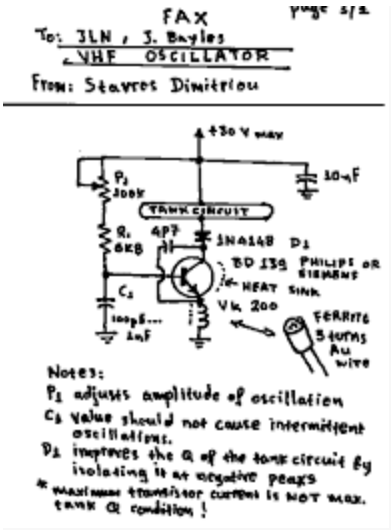

Force
G - hill
G - well
Gravity Potential

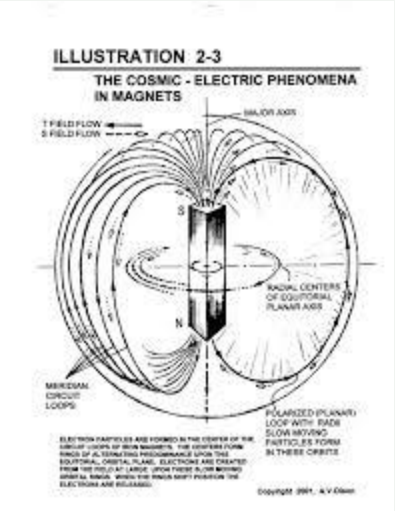


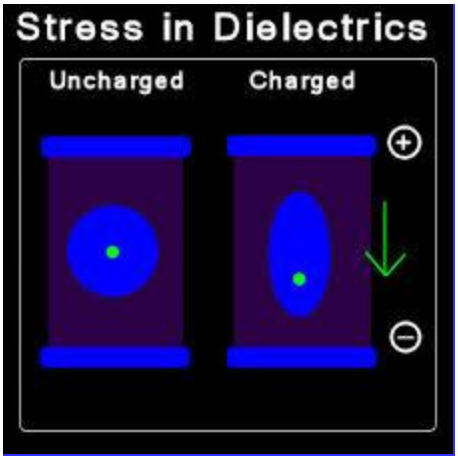

eight quarter-wavelength elements are set radially and spaced at 45 degrees to each other.
350 mm
RF Oscillator
Quarter wavelength : L=750 mm for 100 MHz

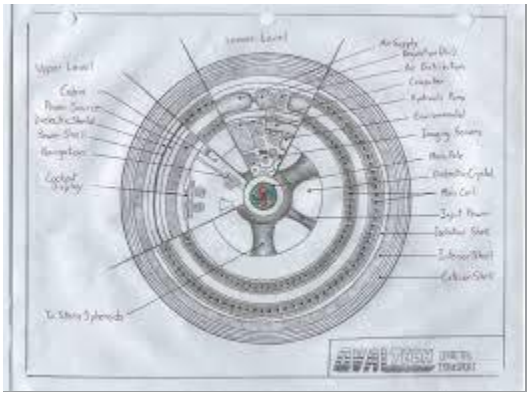

Electro Gravity
MOHSEN LOTFI , ABEL LOTFI

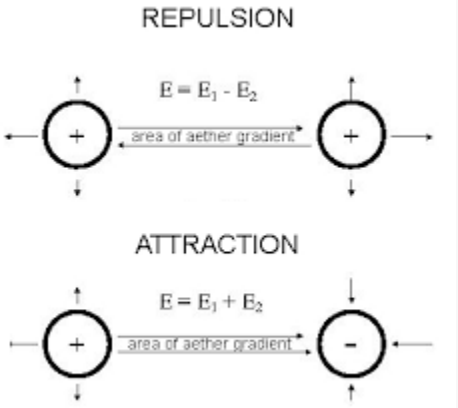

electron 1


FAX
page 1/2
To: JLN , J. Bayles
VHF OSCILLATOR
From: Stavros Dimitriou
+30 V max
10nF
TANK CIRCUIT
4pF
1N4148
BD 139 PHILIPS OR SIEMENS
HEAT SINK
FERRITE 5 turns AU wire
Notes:
P1 adjusts amplitude of oscillation
C2 value should not cause intermittent oscillations.
D1 improves the Q of the tank circuit by isolating it at negative peaks
* Maximum transistor current is NOT max. tank Q condition !

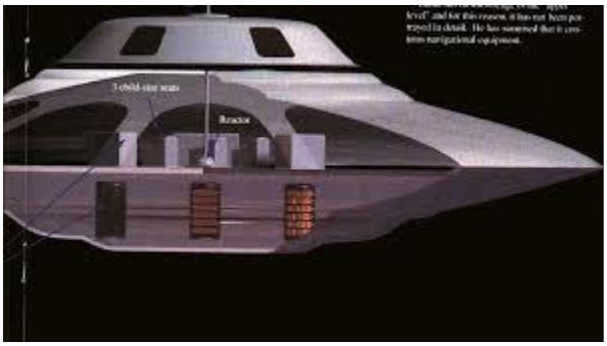

ILLUSTRATION 2-3
THE COSMIC - ELECTRIC PHENOMENA IN MAGNETS
T FIELD FLOW
S FIELD FLOW
MAJOR AXIS
RADIAL CENTERS OF EQUITORIAL PLANAR AXIS
MERIDIAN CIRCUIT LOOPS
POLARIZED (PLANAR) LOOP WITH FADE SLOW MOVING PARTICLES FORM IN THESE ORBITS

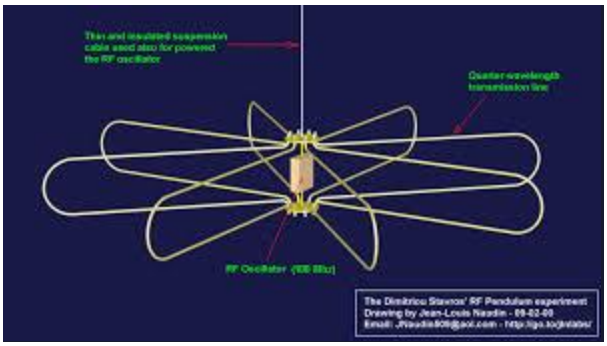

Stress in Dielectrics
Uncharged
Charged

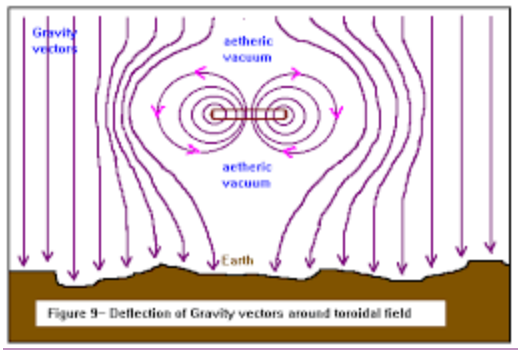



REPULSION
E = E1 - E2
area of aether gradient
ATTRACTION
E = E1 + E2
area of aether gradient


electro gravity
www.electrogravity.de

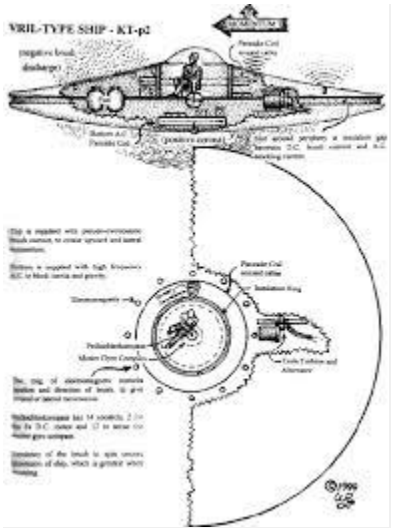


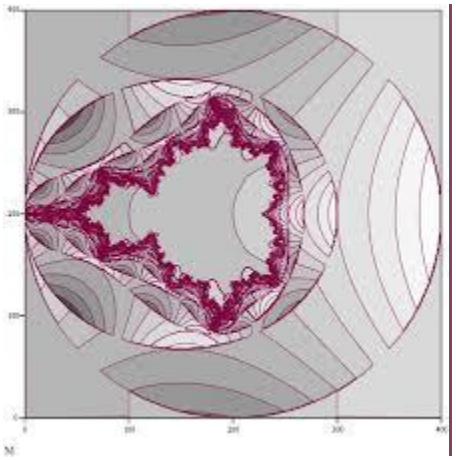

Thin and insulated suspension cable used also for powered the RF oscillator
Quarter-wavelength transmission line
RF Oscillator
The Dimitriou Stavros' RF Pendulum experiment
Drawing by Jean-Louis Naudin - 09-02-09

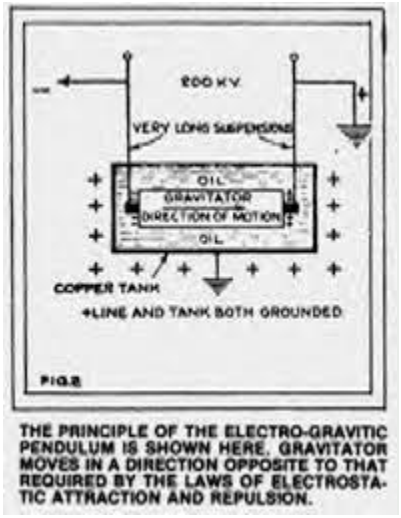

Gravity vectors
aetheric vacuum
aetheric vacuum
Earth
Figure 9– Deflection of Gravity vectors around toroidal field


Stavros' RF pendulum
by JL Naudin - 09-03-00
Email: JNaudin509@aol.com

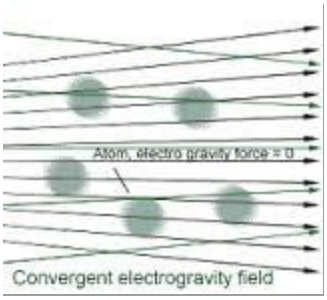


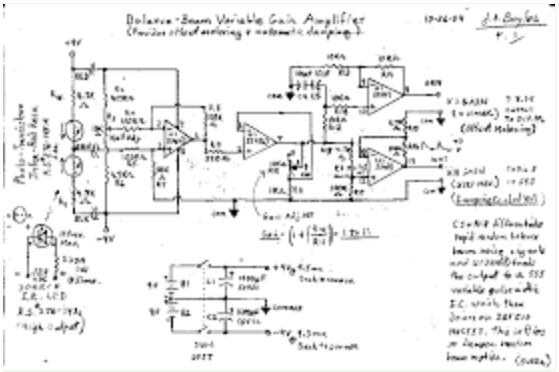

VRIL-TYPE SHIP - KT-p2

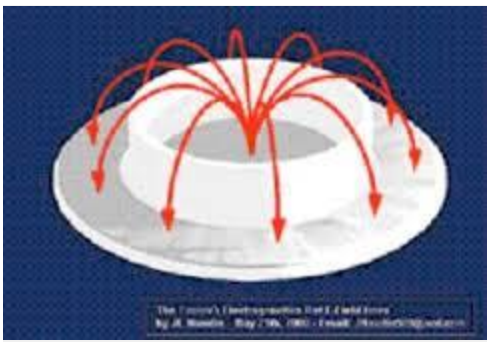



200 KV.
VERY LONG SUSPENSION
OIL
GRAVITATOR
DIRECTION OF MOTION
OIL
COPPER TANK
+LINE AND TANK BOTH GROUNDED
FIG.2
THE PRINCIPLE OF THE ELECTRO-GRAVITIC PENDULUM IS SHOWN HERE. GRAVITATOR MOVES IN A DIRECTION OPPOSITE TO THAT REQUIRED BY THE LAWS OF ELECTROSTATIC ATTRACTION AND REPULSION.

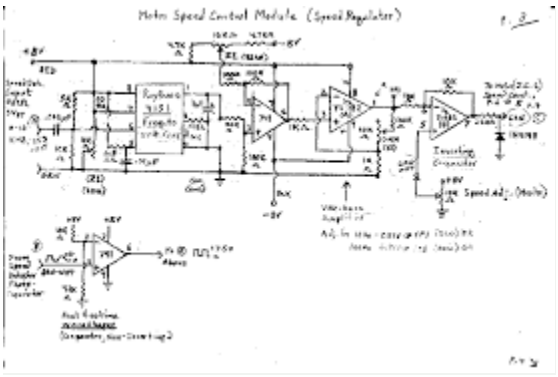

THIUM
ELECTROGRAVITY

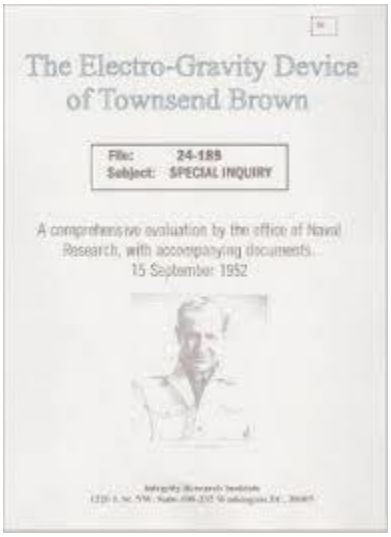

Atom, electro gravity force = 0
Convergent electrogravity field

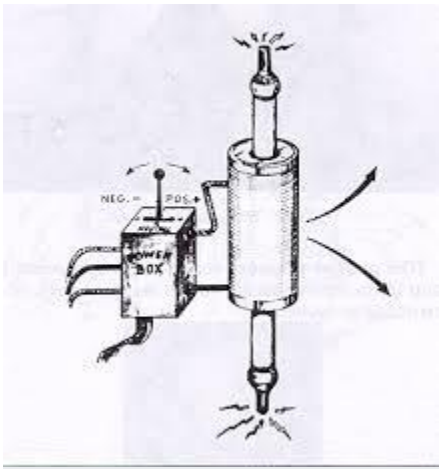







Motor Speed Control Module (Speed Regulator)

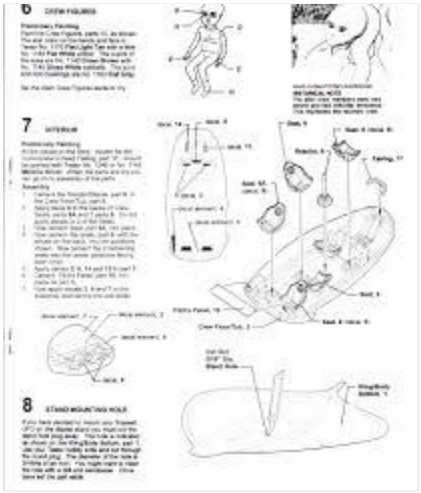

The Electro-Gravity Device
of Townsend Brown
File: 24-185
Subject: SPECIAL INQUIRY
A comprehensive evaluation by the office of Naval
Research, with accompanying documents.
15 September 1952

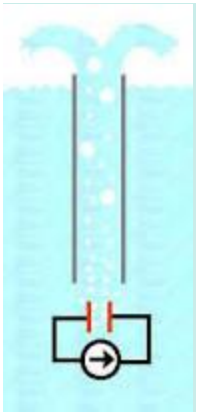

NEG.
POS.
POWER
BOX

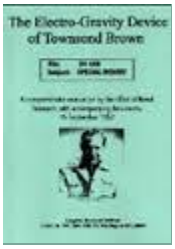

GD 037
Dee Jay Groove


labohr
ganove

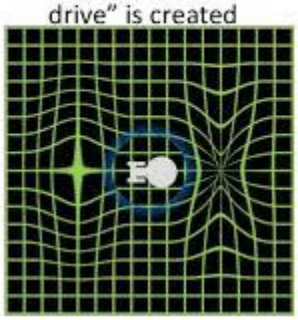


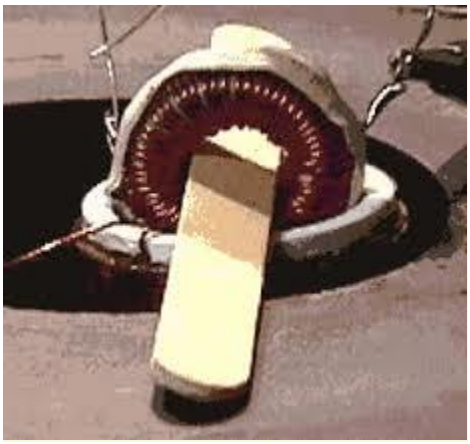






By warping space-time around the object in flight, a kind of humble "warp drive" is created





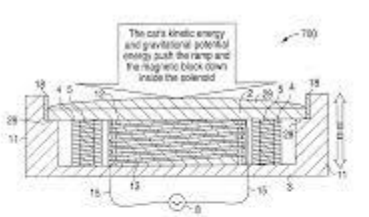


FIG. 8

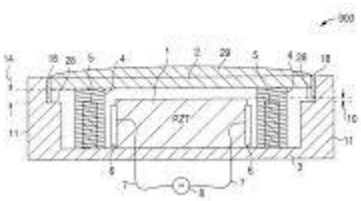
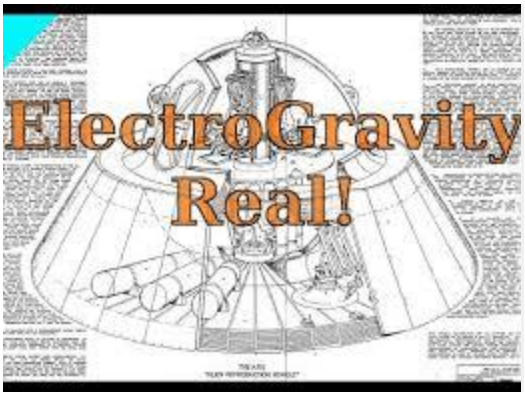
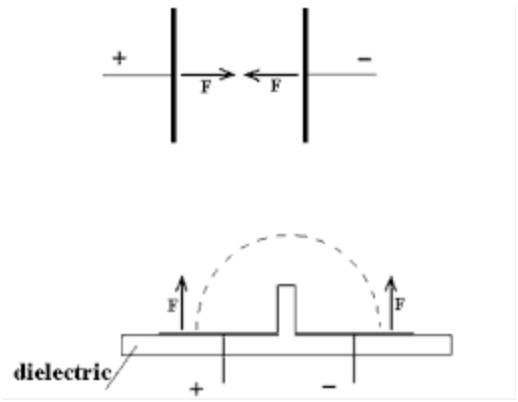


FIG. 9



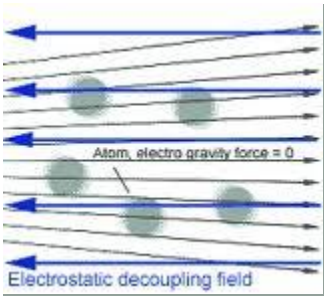



Ionic Wind Propulsion
Electrons are stripped and the nuclei are accelerated towards and then through the negative grid
Positive Ionic Wind

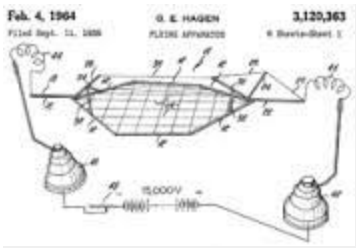

+
F
F
−
F
F
dielectric
+
−

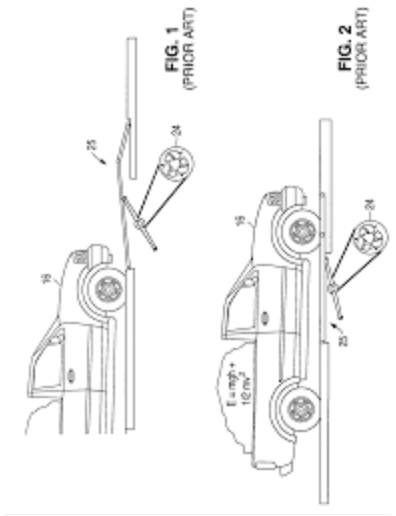

archimedes

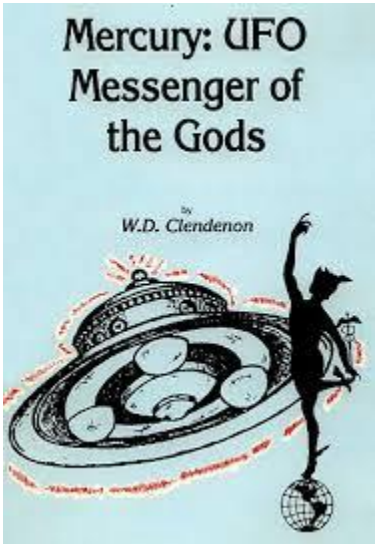


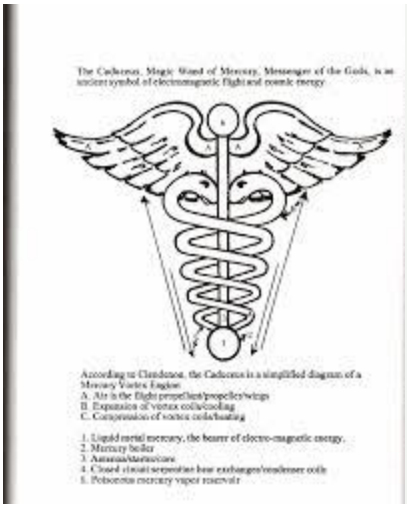

Atom, electro gravity force = 0
Electrostatic decoupling field




Feb. 4, 1964
O. E. HAGEN
3,120,363
15,000V


FIG. 1
(PRIOR ART)
FIG. 2
(PRIOR ART)


Mercury: UFO Messenger of the Gods
by
W.D. Clendenon



The Caduceus, Magic Wand of Mercury, Messenger of the Gods, is an ancient symbol of electromagnetic flight and cosmic energy

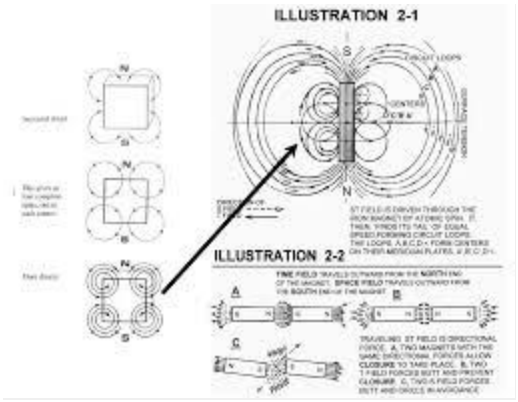
According to Clendenon, the Caduceus is a simplified diagram of a Mercury Vortex Engine
A. Air is the flight propellant/propellers/wings
B. Expansion of vortex coils/cooling
C. Compression of vortex coils/heating

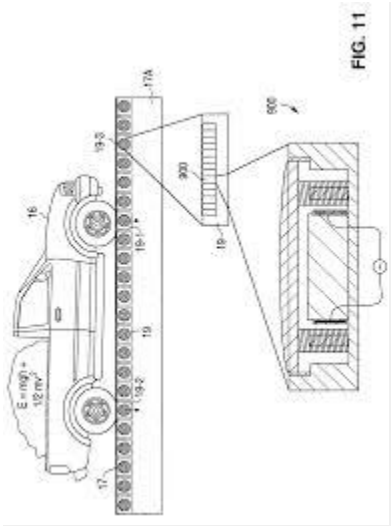
1. Liquid metal mercury, the bearer of electro-magnetic energy.
2. Mercury boiler
3. Antenna/stator/core
4. Closed circuit serpentine heat exchanger/condenser coils
5. Poloxenite mercury vapor reservoir



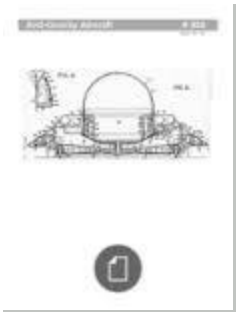






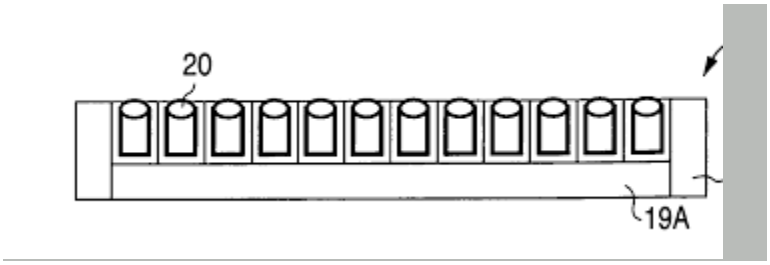


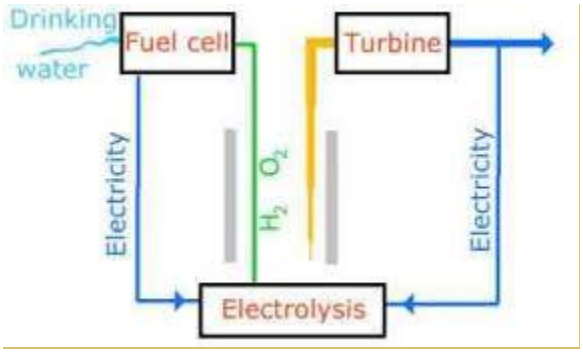


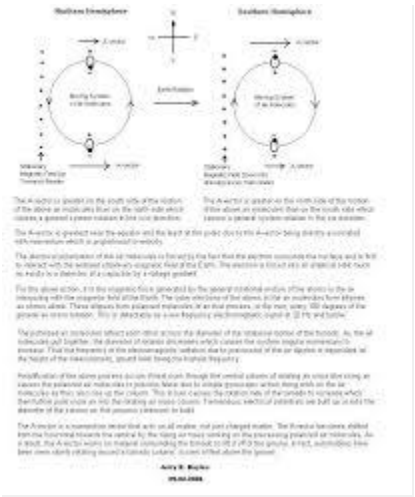


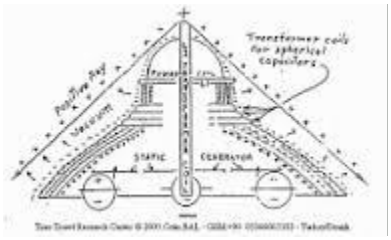

UNIFIED FIELD THEORY
BASIC PROJECTIONS OF THE THEORY!
- NEW MODEL OF AN ATOM,
- NEW MODEL OF THE UNIVERSE,
- CHANGE IN GALILEO Inertia Principle,
- A Fundamental Change in the Structure of MAXWELL'S EQUATIONS, AN ADDITIONAL TERMS AND ADDITIONS,
- A CHANGE IN POYNTING ENERGY THEORY,
- A CHANGE into Gravitational field and field equations, STATIC AND UNIVERSAL GRAVITATIONAL CONSTANTS,
- THE DYNAMICS OF Gravitational field with Combining the Electromagnetics Theory,
- AND MUCH MORE ..
Qm
UNIFIED FIELD THEORY
- PREPARED, NEARLY WITHIN 15 YEARS AT LAST,
- WITH ABOUT 100 NEW THEOREMS,
- WITH ABOUT 1000 NEW ILLUSTRATED SCIENTIFIC DRAWINGS,
- BRINGS A NEW UNIVERSE MODEL & NEW PHYSICS ERA..
By MURAT UKRAY
"UKRAY UNIFIED"
ELECTRO/GRAVITATION FIELD THEORY

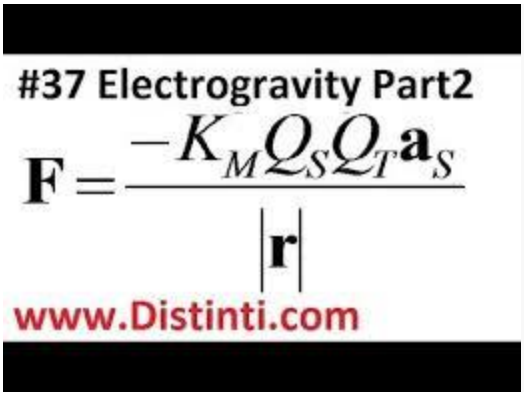

Jon Klette
Electro Gravity

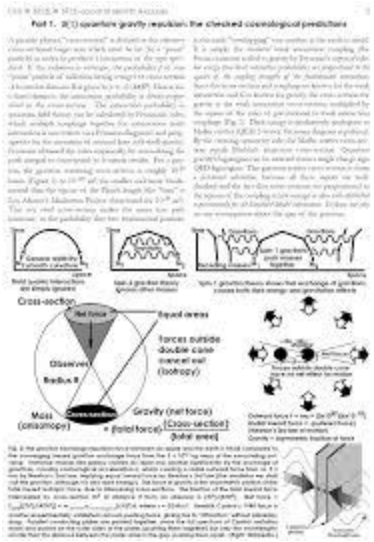

20
19A


Drinking water
Fuel cell
Turbine
Electricity
H_2 O_2
Electricity
Electrolysis



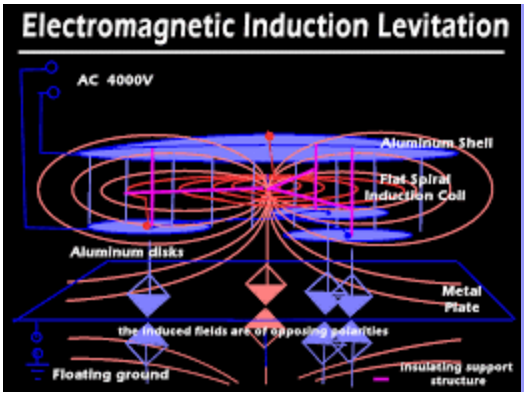

Transformer coils for spherical capacitors
Positive Ray
Neutral point
Power
STATIC
GENERATOR


#37 Electrogravity Part2
$\mathbf{F} = \frac{-K_M Q_S Q_T \mathbf{a}_S}{|\mathbf{r}|}$
www.Distinti.com


Cross-section
Observer
Mass (cosmology)
Gravity (net force)
(total area)



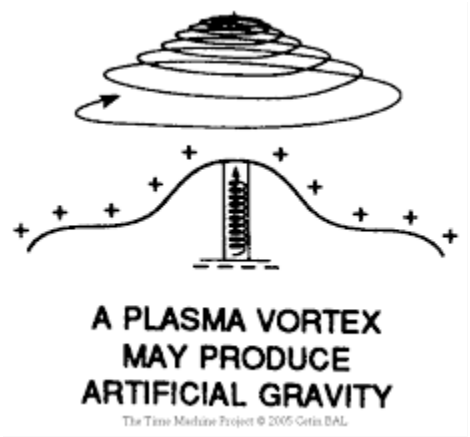


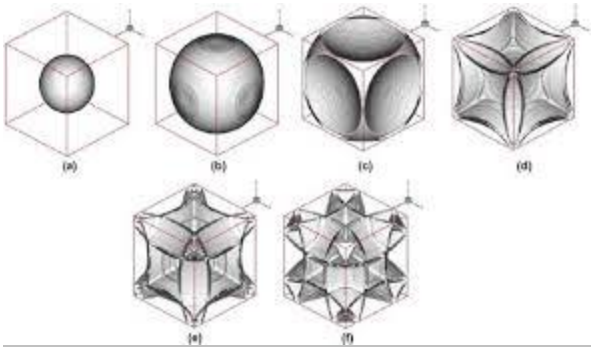

Electromagnetic Induction Levitation
AC 4000V
Aluminum Shell
Flat Spiral Induction Coil
Aluminum disks
Metal Plate
the induced fields are of opposing polarities
Floating ground
Insulating support structure

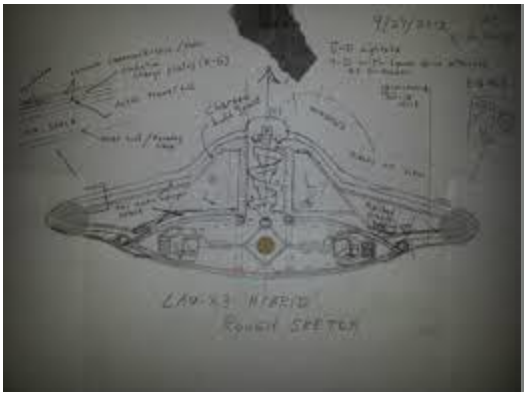




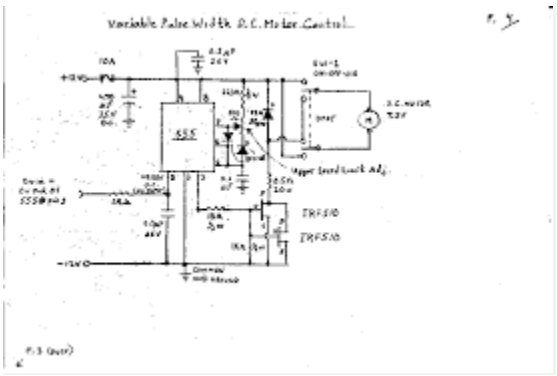


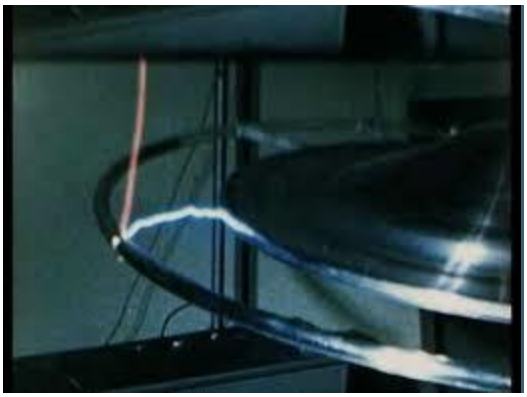

A PLASMA VORTEX
MAY PRODUCE
ARTIFICIAL GRAVITY
The Time Machine Project © 2005 Getin BAL


(a)
(b)
(c)
(d)
(e)
(f)













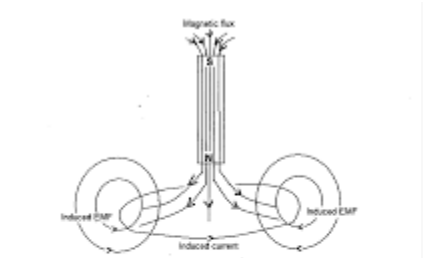


Fig-3: Faraday's law of Induced EMF

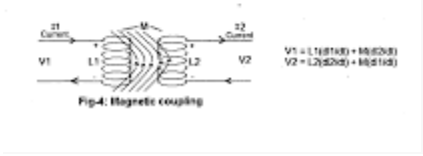


Fig-4: Magnetic coupling

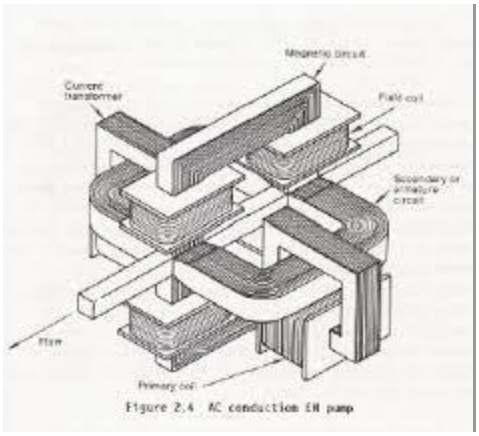


Figure 2.4 AC conduction EM pump

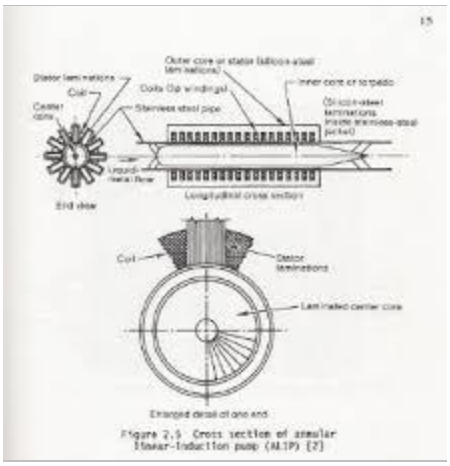
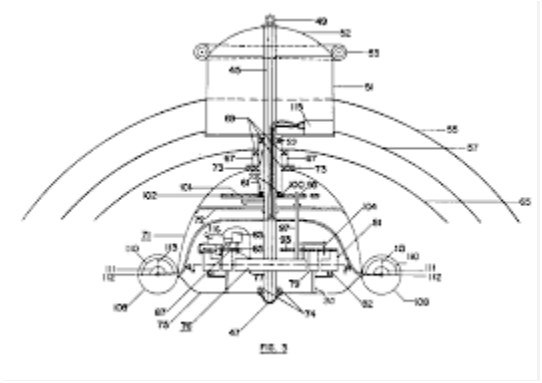
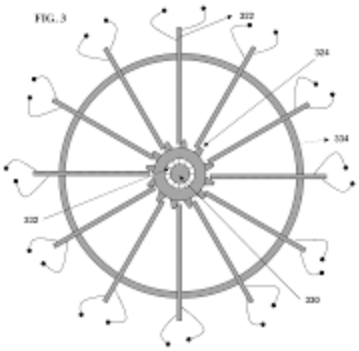


Figure 2.5 Cross section of annular linear-induction pump (ALIP) [2]


FIG. 3


FIG. 4



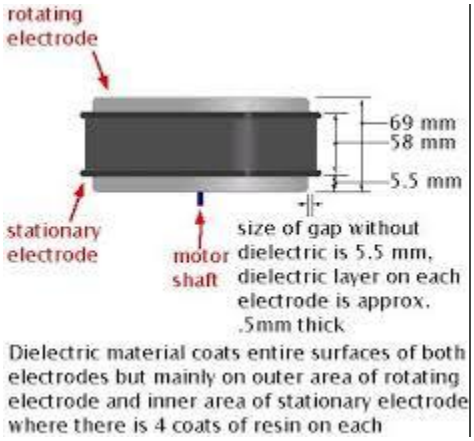
The Electro-Gravity Device of Townsend Brown

File: 24-185
Subject: SPECIAL INQUIRY

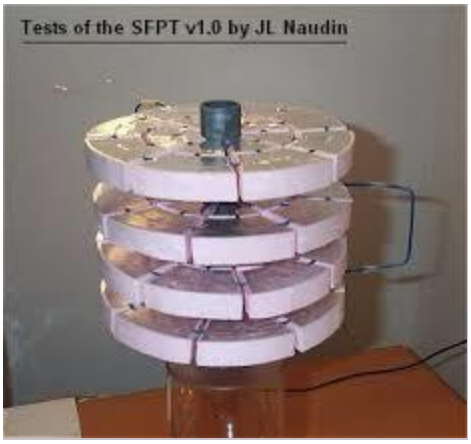
A comprehensive evaluation by the office of Naval Research, with accompanying documents.
15 September 1952



Integrity Research Institute

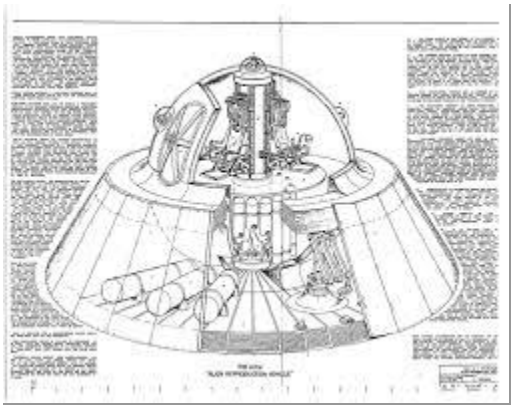


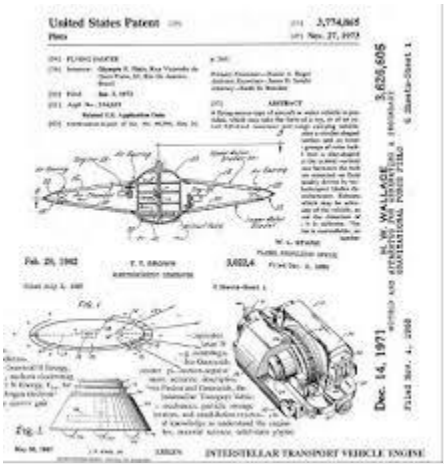
Dielectric material coats entire surfaces of both electrodes but mainly on outer area of rotating electrode and inner area of stationary electrode where there is 4 coats of resin on each

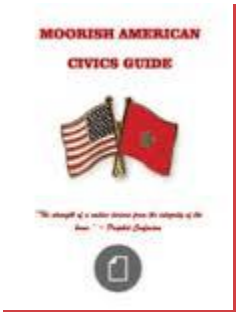




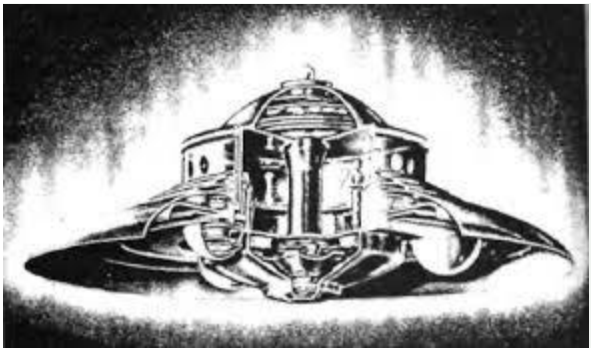





United States Patent
3,774,865
Nov. 27, 1973
3,626,605
Dec. 14, 1971
H. W. WALLACE
INTERSTELLAR TRANSPORT VEHICLE ENGINE


MOORISH AMERICAN
CIVICS GUIDE





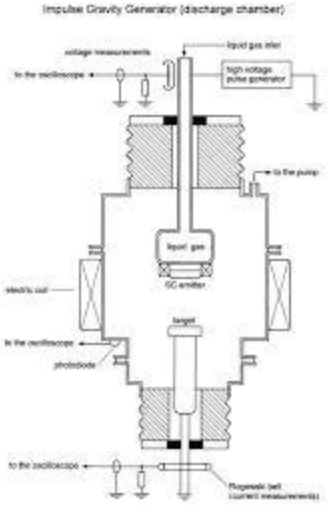
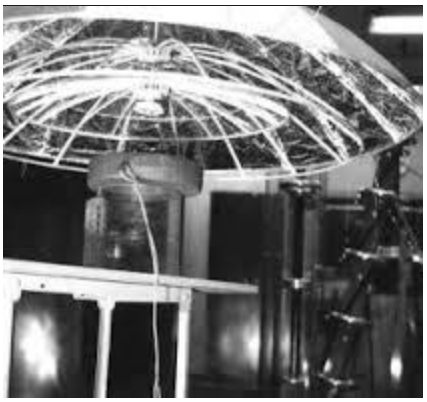

Impulse Gravity Generator (discharge chamber)
voltage measurements
liquid gas inlet
to the oscilloscope
high voltage pulse generator
to the pump
liquid gas
GC emitter
electric coil
target
to the oscilloscope
photodiode
to the oscilloscope

Fig. 3





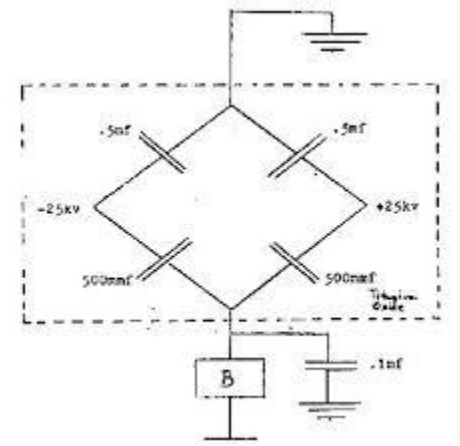


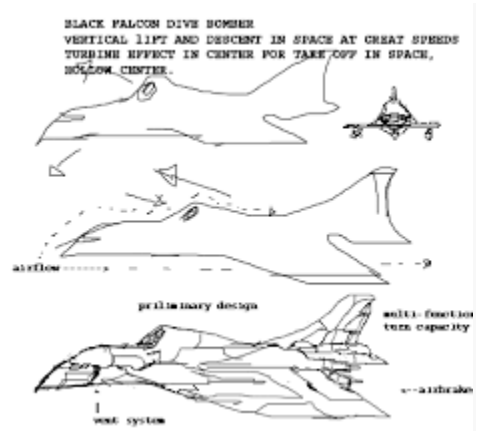


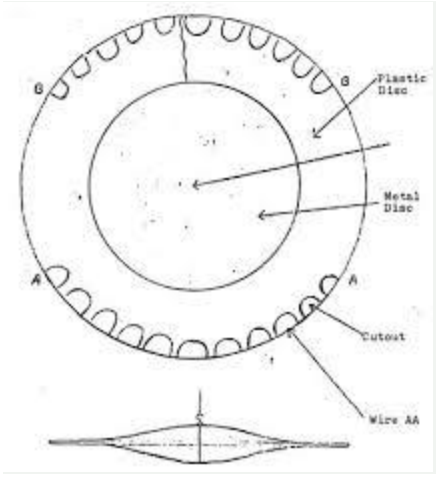
Saucer-shaped helicopter gets lift from air pump

Air pumped from inside this inverted dish by the impeller on top creates an air flow over the upper surface that causes the craft to rise vertically. Reason, says the maker, Avro Kinetics, of Houston: less pressure in the air layer than that of normal air below. This eliminates need for rotor blades, while maneuverability and forward speed are said to be the same as for a helicopter. Motor: a 135-hp. Mercury outboard.

PS PICTURE NEWS







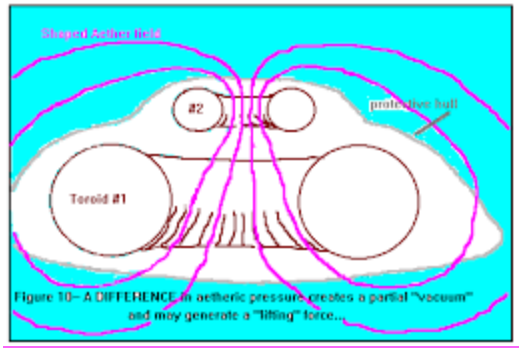
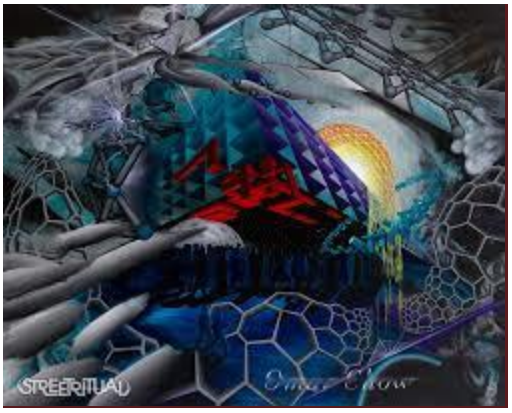


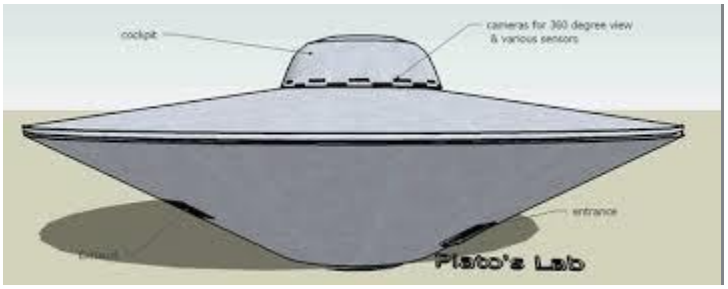
Figure 10– A DIFFERENCE in aetheric pressure creates a partial "vacuum" and may generate a "lifting" force...

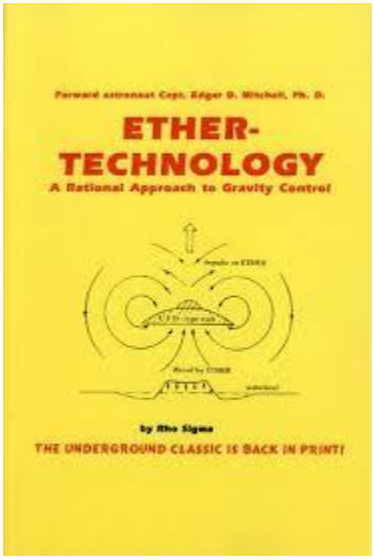

subculture PRES.
DISCOVER
WORLD TOUR
FELIX KRÖCHER
Electro Gravity
FELIX KRÖCHER //
CRAZY ERG //
SVEN HARTMÜLLER //
FEYDH ROTAN //
DENES //
FR 14.05.2010
HALLE02 // HEIDELBERG

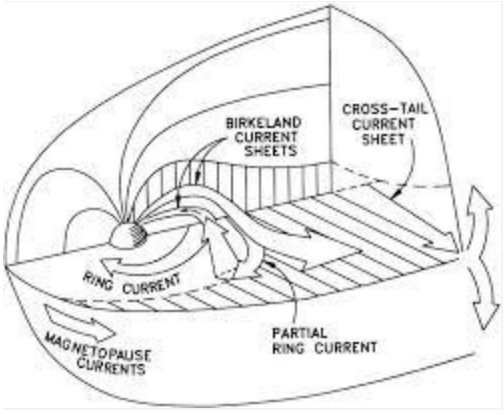

STREETRITUAL

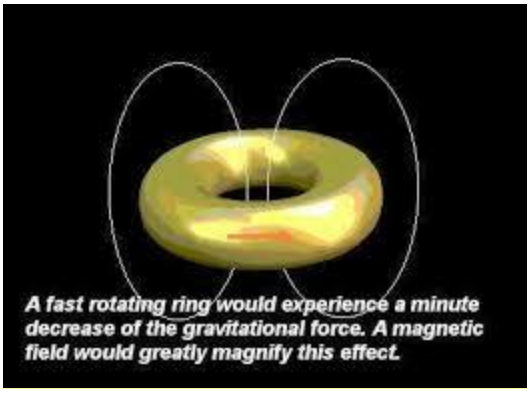



House To Techno
CLUSTER
25.03.16
22H/04H
FREE ENTRY
TIMAL [Dirtytrax]
NR2 [NouvelR / FHD Rec.]
CHEAPSET
dirtytrax

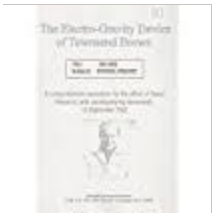

cockpit
cameras for 360 degree view
& various sensors
entrance
Plato's Lab

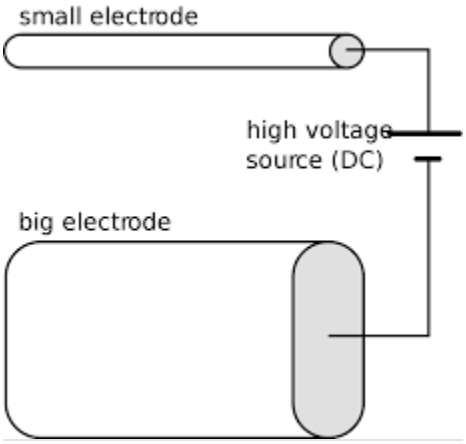

Forward astronaut Capt. Edgar D. Mitchell, Ph. D.
ETHER-
TECHNOLOGY
A Rational Approach to Gravity Control
by Rho Sigma
THE UNDERGROUND CLASSIC IS BACK IN PRINT!


BIRKELAND
CURRENT
SHEETS
CROSS-TAIL
CURRENT
SHEET
RING CURRENT
MAGNETOPAUSE
CURRENTS
PARTIAL
RING CURRENT


A fast rotating ring would experience a minute decrease of the gravitational force. A magnetic field would greatly magnify this effect.



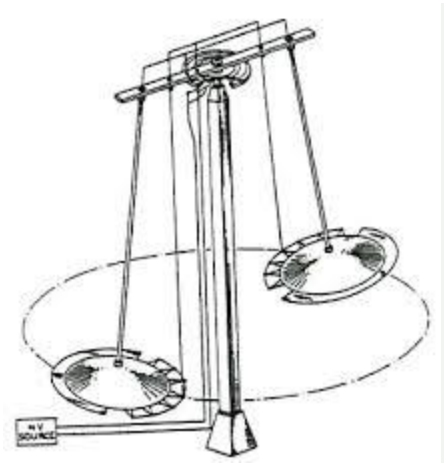



small electrode
high voltage
source (DC)
big electrode


Is it a Multi-Dimensional Toroid?
This research was named differently over the years.
Initial Modeling on Silverscreen Software
Cross sections make pendants? Anyone?
WOW! Improved Clipping Planes tool!
Bo Atkinson From 1994 to present
June 2012, formz beta update allows better handling.
Next is to try multi-shell versions which used to crash pc.


The NASA rotating asymmetrical capacitor thruster
Demonstration by Jean-Louis Naudin - Nov 18, 2001
Email: Jnaudin509@aol.com - http://jnaudin.free.fr/

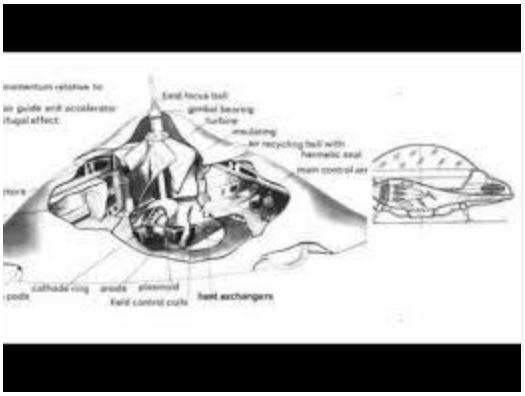




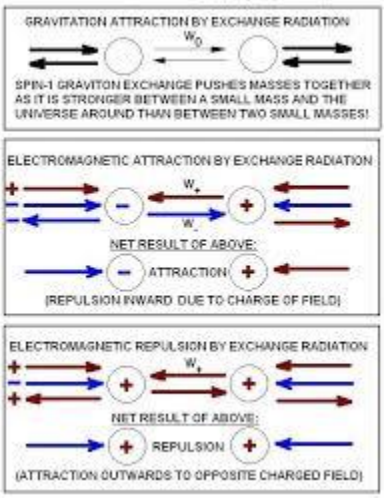


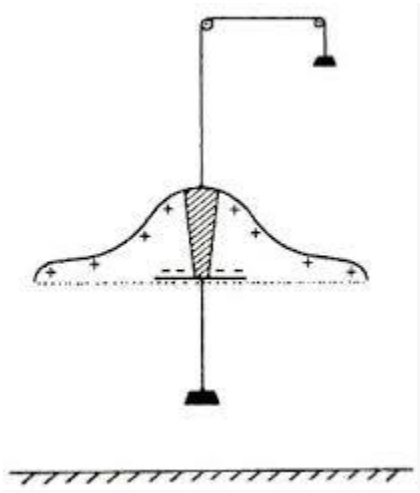


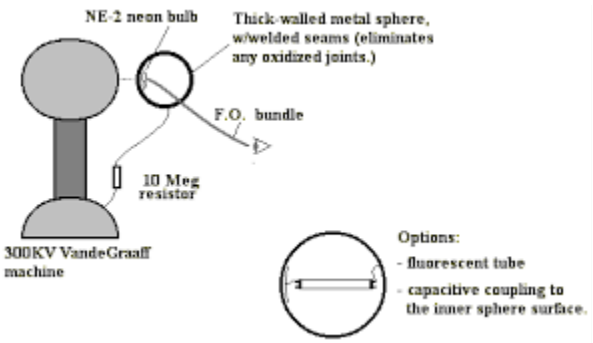




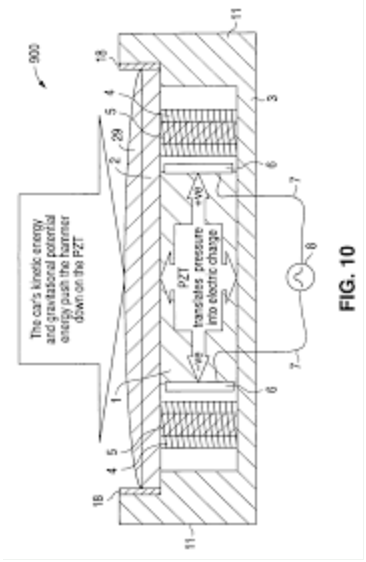
SOME EFFECTS OF MASSLESS SU(2) W_0, W_+ AND W_- BOSONS

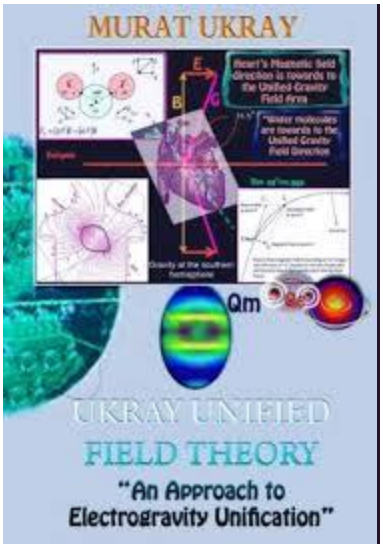




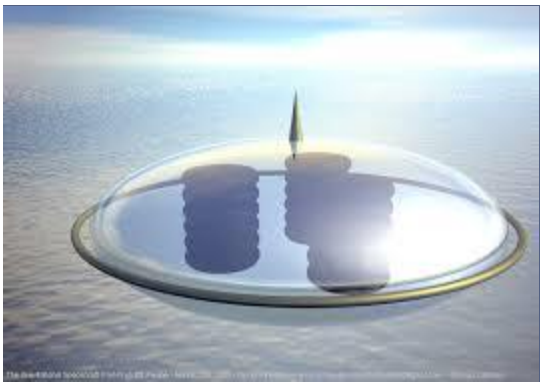




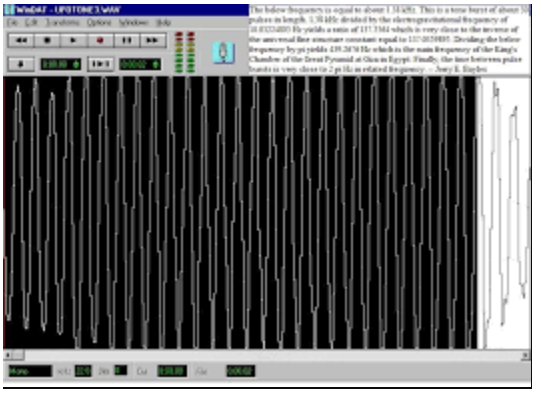


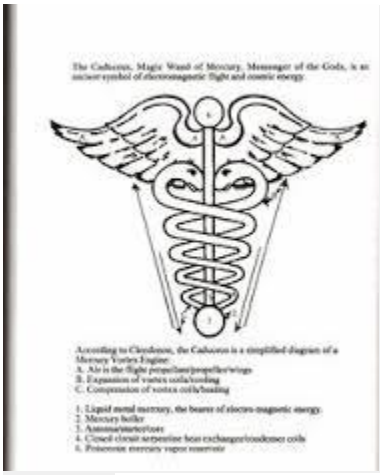




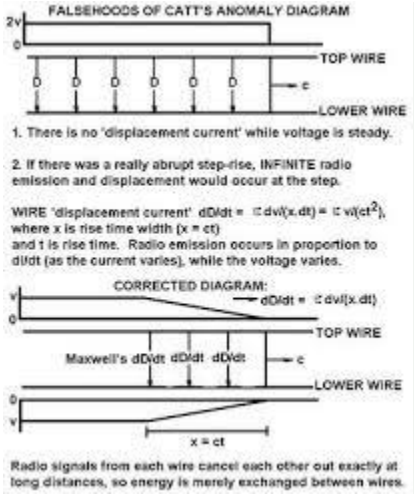


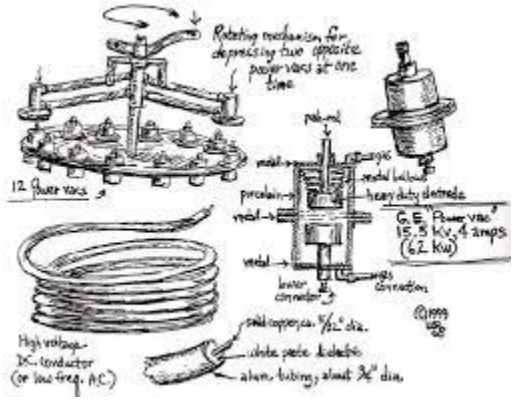

Electrogravity

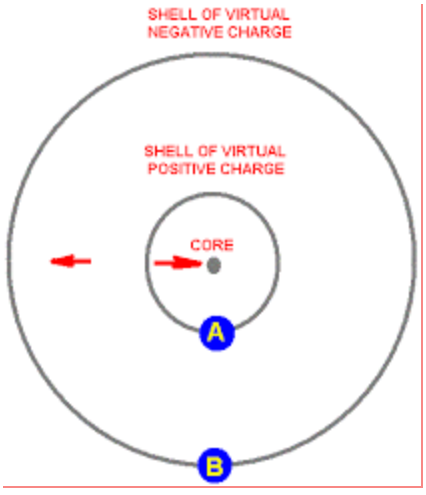


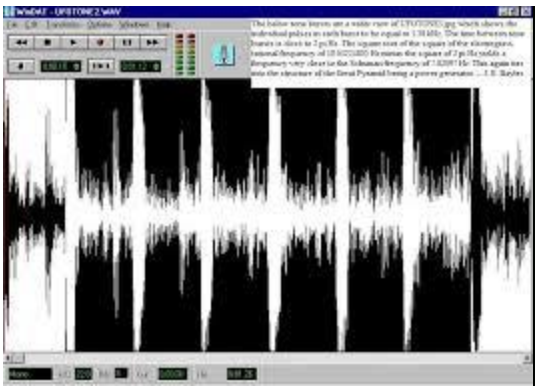

The Caduceus, Magic Wand of Mercury, Messenger of the Gods, is an ancient symbol of electromagnetic flight and cosmic energy.
According to Clendenon, the Caduceus is a simplified diagram of a Mercury Vortex Engine:
A. Air is the flight propellant/propeller/wings
B. Expansion of vortex coils/cooling
C. Compression of vortex coils/heating
1. Liquid metal mercury, the bearer of electro-magnetic energy.
2. Mercury boiler
3. Ammeter/motors
4. Closed circuit serpentine heat exchanger/condenser coils
5. Pressurize mercury vapor reservoir

5 days ago

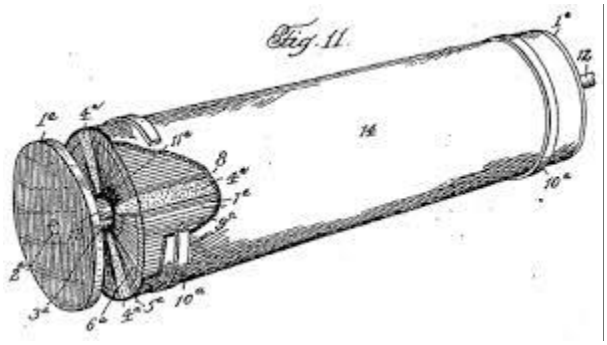

FALSEHOODS OF CATT'S ANOMALY DIAGRAM
2V
0
TOP WIRE
LOWER WIRE
1. There is no 'displacement current' while voltage is steady.
2. If there was a really abrupt step-rise, INFINITE radio emission and displacement would occur at the step.
WIRE 'displacement current' dD/dt = ∁dv/(x.dt) = ∁v/(ct²),
where x is rise time width (x = ct)
and t is rise time. Radio emission occurs in proportion to dI/dt (as the current varies), while the voltage varies.
CORRECTED DIAGRAM:
dD/dt = ∁dv/(x.dt)
TOP WIRE
Maxwell's dD/dt dD/dt dD/dt
c
LOWER WIRE
x = ct
Radio signals from each wire cancel each other out exactly at long distances, so energy is merely exchanged between wires.


Rotating mechanism for depressing two opposite pairs vanes at one time
12 Power vanes
porcelain
metal
heavy duty electrode
G.E. Power vac
15.5 kv, 4 amps
(62 kw)
lower connection
©1999
High voltage DC conductor (or low freq. A.C.)
solid copper ca. 3/32" dia.
white paste dielectric
alum. tubing, about 3/4" dia.


SHELL OF VIRTUAL NEGATIVE CHARGE
SHELL OF VIRTUAL POSITIVE CHARGE
CORE
A
B



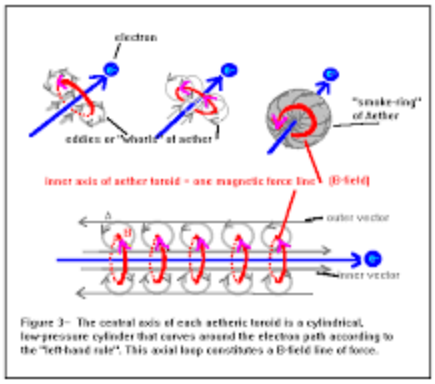

INFINITE ENERGY
The Magazine of New Energy Science and Technology
Aquapol Free Energy
Moisture Control Device
New Stirrus LENR Book
Ultraviolet Catastrophes
of Quantum Mechanics


Fig. 11.



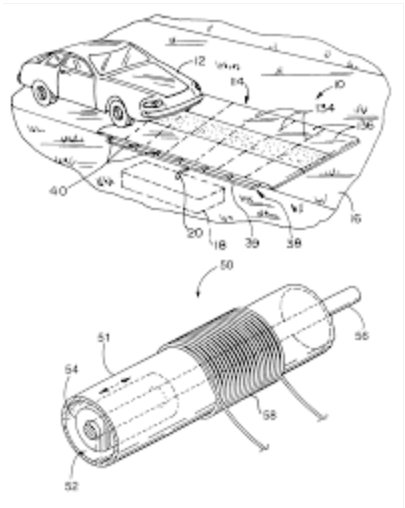


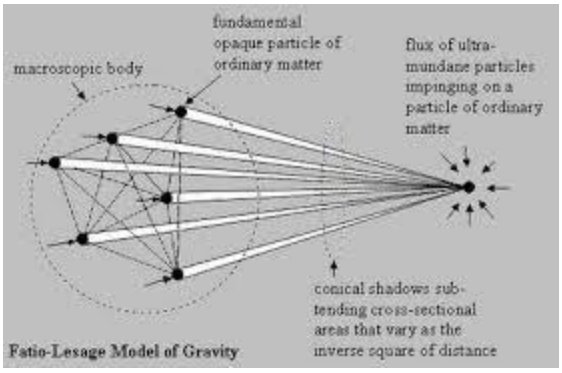



electron
"smoke-ring"
of Aether
eddies or "whorls" of aether
inner axis of aether toroid = one magnetic force line (B-field)
outer vector
inner vector
Figure 3– The central axis of each aetheric toroid is a cylindrical, low-pressure cylinder that curves around the electron path according to the "left-hand rule". This axial loop constitutes a B-field line of force.

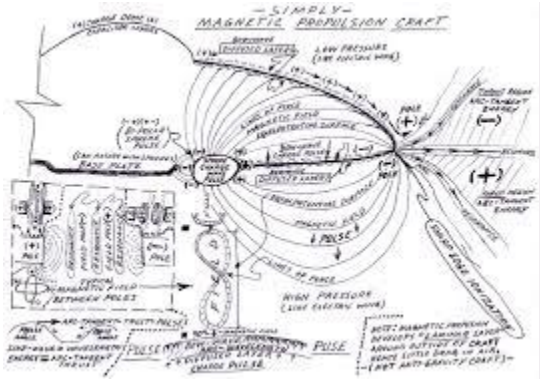


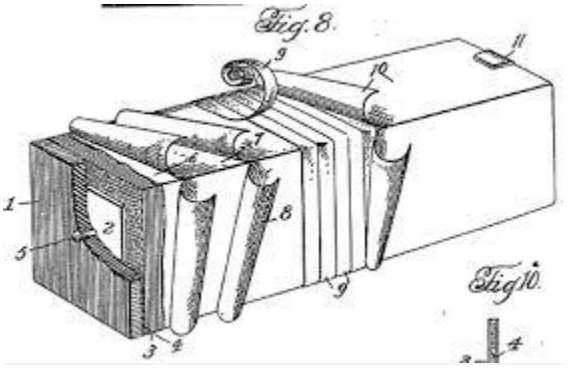

uploaded in HD @ TunesToTube.com
"Electro"
Sunno gour se Duniya walo
Submission for Makin' It Magazine's
$3500 RAP COMPETITION
WITH PLATINUM SUPER PRODUCER CASSIUS JAY
www.MakinItMag.com/ktt

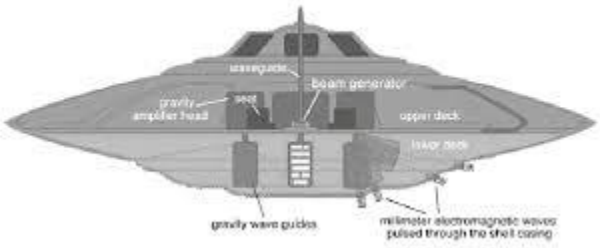



fundamental opaque particle of ordinary matter
macroscopic body
flux of ultra-mundane particles impinging on a particle of ordinary matter
conical shadows subtending cross-sectional areas that vary as the inverse square of distance
Fatio-Lesage Model of Gravity


Gravity
DEEP SPACE

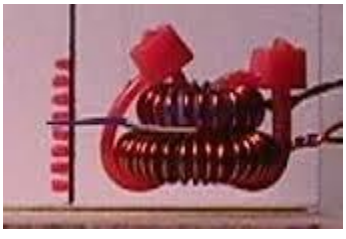

— SIMPLY —
MAGNETIC PROPULSION CRAFT


Fig. 8.
Fig 10.


Beam generator
gravity amplifier head
upper deck
gravity wave guides
millimeter electromagnetic waves pulsed through the shell casing


LITHIUM
ELECTROGRAVITY - EP





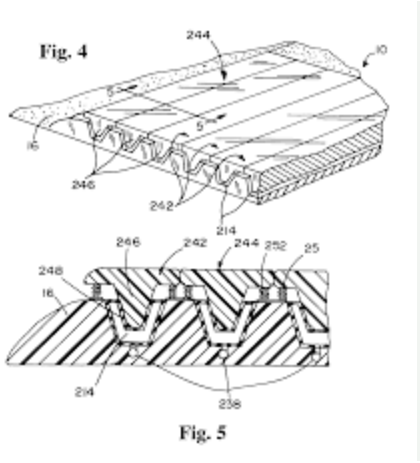
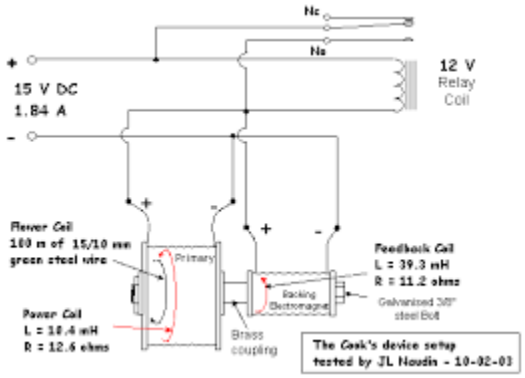
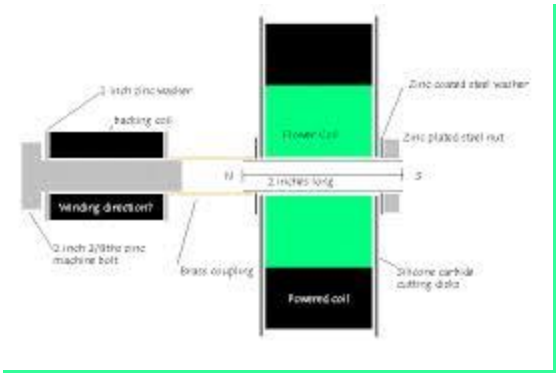

Fig. 4
244
10
16
246
242
214
266
242
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238

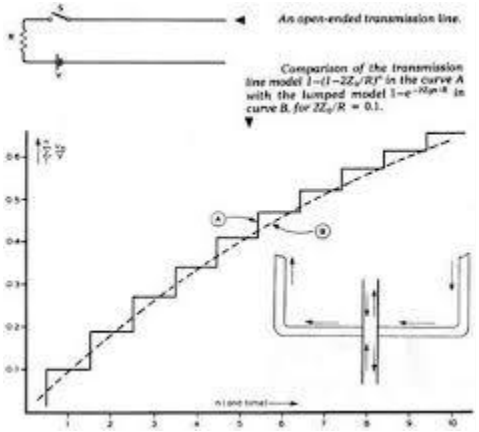
Fig. 5

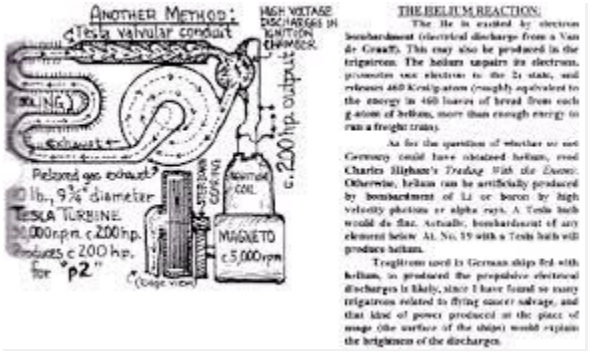



Nc
No
15 V DC
1.84 A
12 V
Relay
Coil
Flower Coil
180 m of 15/10 mm
green steel wire
Primary
Power Coil
L = 18.4 mH
R = 12.6 ohms
Brass
coupling
Racking
Electromagnet
Feedback Coil
L = 39.3 mH
R = 11.2 ohms
Galvanized 3/8"
steel Bolt
The Cook's device setup
tested by JL Houdin - 10-02-03

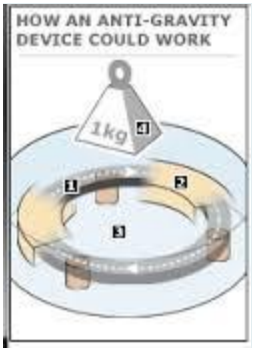

1 inch zinc washer
backing coil
Flower Coil
Zinc coated steel washer
Zinc plated steel nut
2 inches long
Winding direction?
2 inch 2/8the zinc
machine bolt
Brass coupling
Powered coil
Silicone carbide
cutting disks


#35: Electrogravity
www.Distinti.com

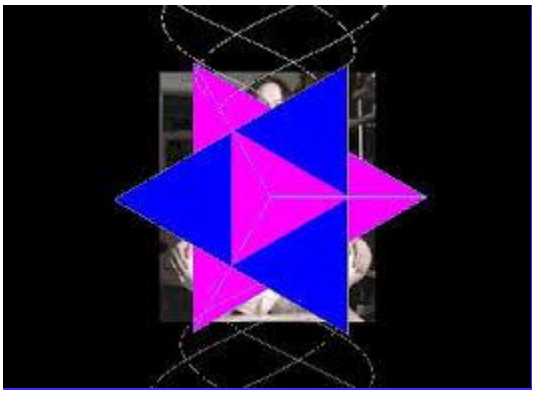

An open-ended transmission line.
Comparison of the transmission line model $1-(1-2Z_0/R)^n$ in the curve A with the lumped model $1-e^{-2Gn/R}$ in curve B, for $2Z_0/R = 0.1$.

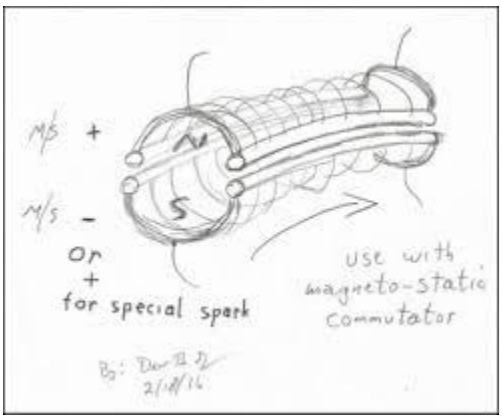

ANOTHER METHOD:
Tesla valvular conduit
HIGH VOLTAGE DISCHARGES IN IGNITION CHAMBER.
Exhaust
Preheated gas exhaust
10 lb., 9¾" diameter
TESLA TURBINE
30,000rpm c 200hp.
Produces c 200 hp.
for "p2"
MAGNETO
c.5,000rpm
c. 200hp. output
THE HELIUM REACTION:
The He is excited by electron bombardment (electrical discharge from a Van de Graaff). This may also be produced in the trigatron. The helium unpairs its electrons, promotes one electron to the 2s state, and releases 460 Kcal/gram-atom (roughly equivalent to the energy in 460 loaves of bread from each g-atom of helium, more than enough energy to run a freight train).
As for the question of whether or not Germany could have obtained helium, read Charles Higham's Trading With the Enemy. Otherwise, helium can be artificially produced by bombardment of Li or boron by high velocity photons or alpha rays. A Tesla bulb would do that. Actually, bombardment of any element below At. No. 19 with a Tesla bulb will produce helium.
Trogltrons used in German ships fed with helium, to generate the propulsive electrical discharges is likely, since I have found so many trigatrons related to lifting cancer salvage, and that kind of power produced at the place of usage (the surface of the ships) would explain the brightness of the discharges.



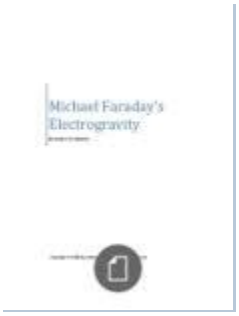

HOW AN ANTI-GRAVITY
DEVICE COULD WORK
1kg
1
2
3
4





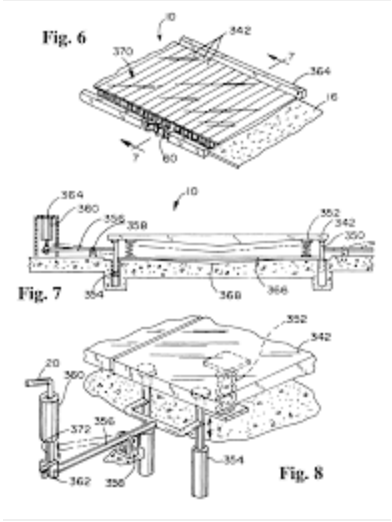

M/s +
M/s -
N
S
Or
+
for special spark
use with
magneto-static
commutator

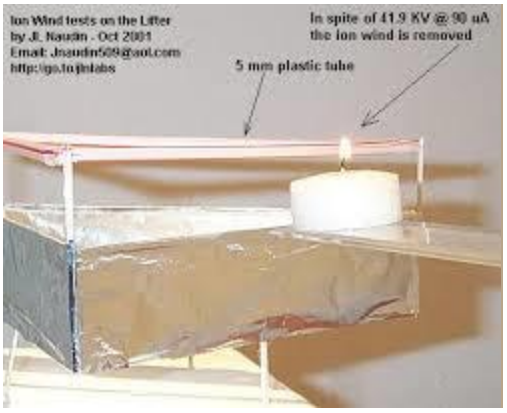



Michael Faraday's
Electrogravity




ELECTRO GRAVITY
ELECTRIFYING LIVE ACTION PERFORMANCE







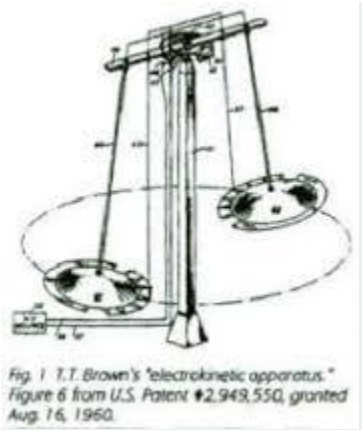
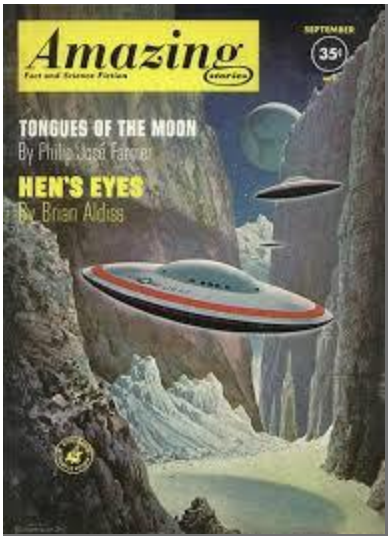


Fig. 1 T.T. Brown's "electrokinetic apparatus." Figure 6 from U.S. Patent #2,949,550, granted Aug. 16, 1960.

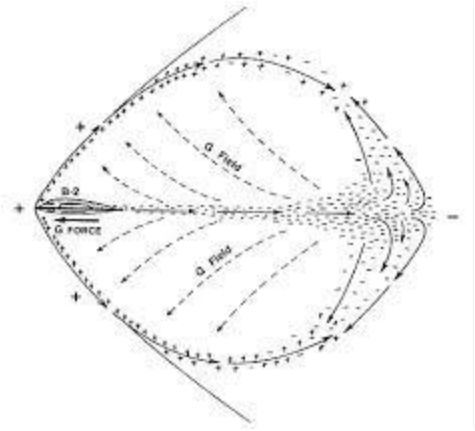


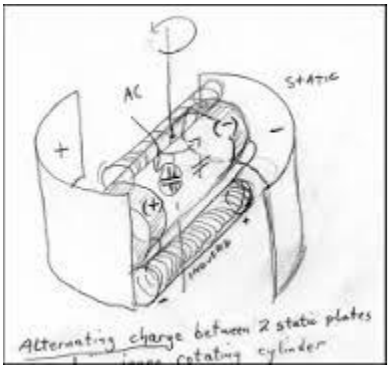


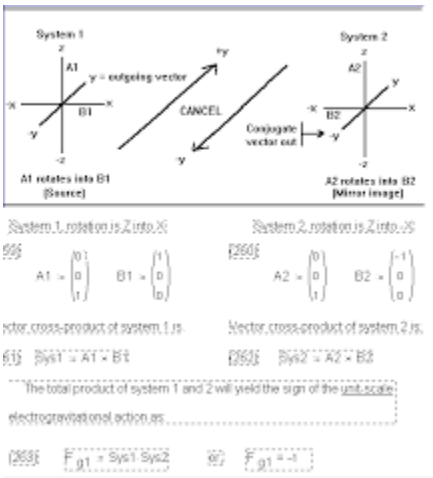


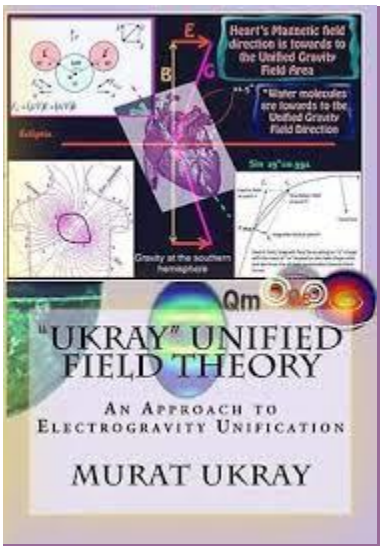


Witness to the Papp Engine Explosion:
An Interview with Cecil Baumgartner

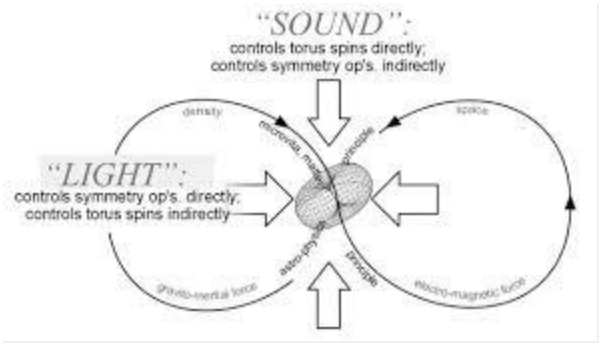








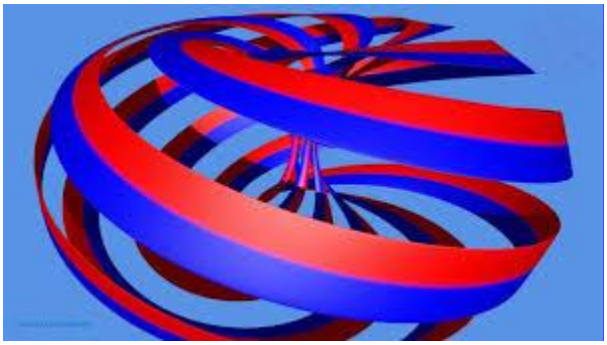


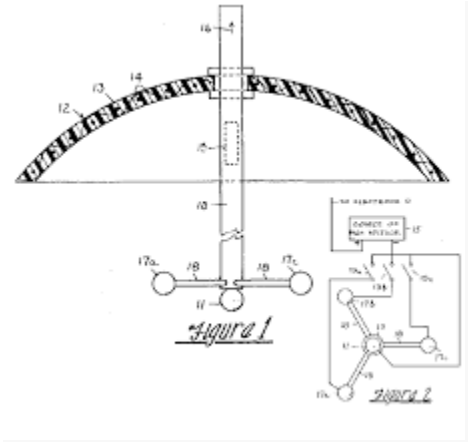












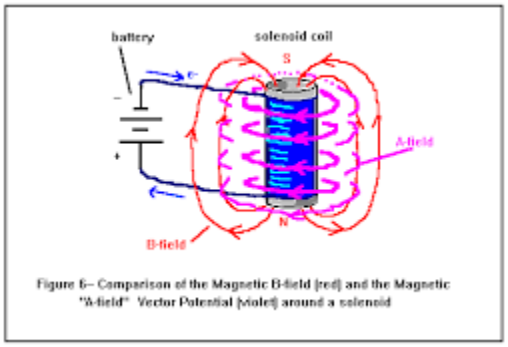
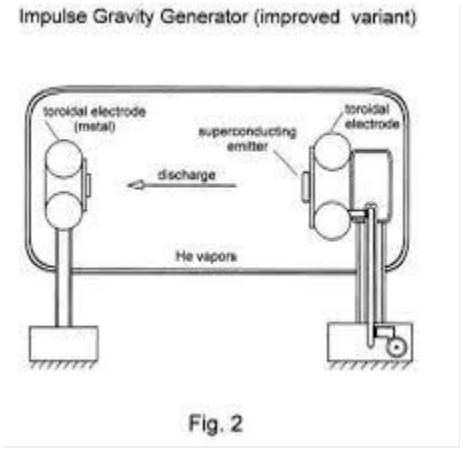
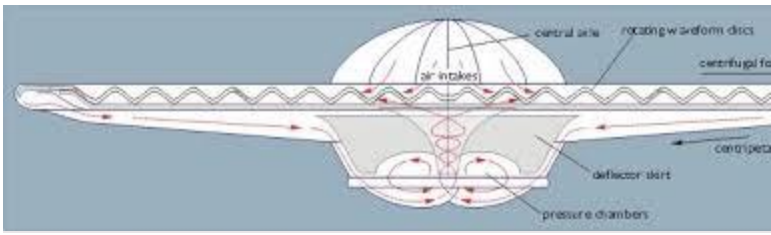
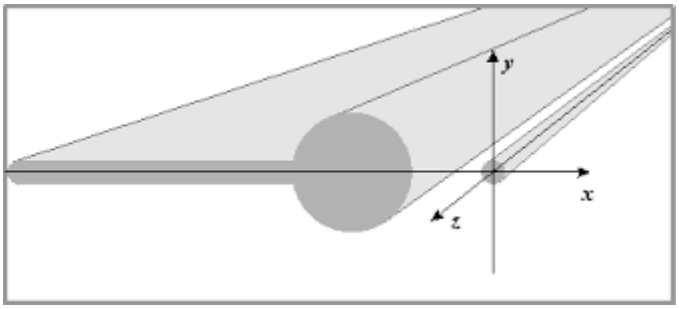


Figure 6– Comparison of the Magnetic B-field (red) and the Magnetic "A-field" Vector Potential (violet) around a solenoid

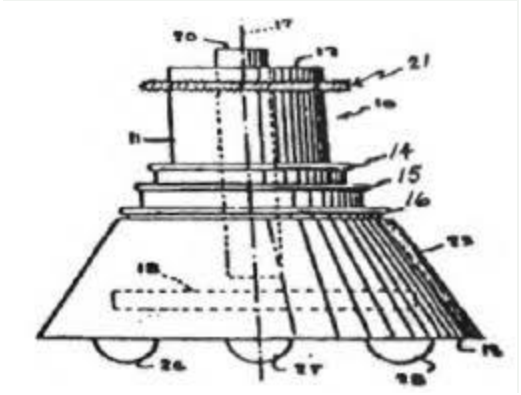


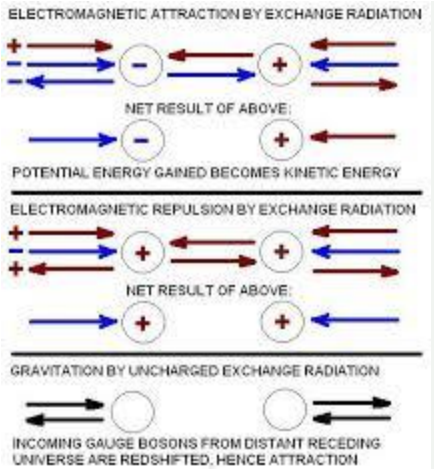


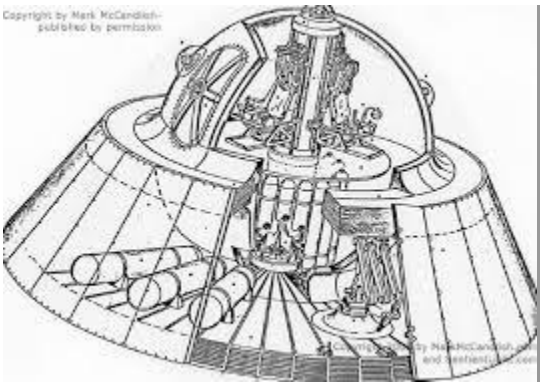




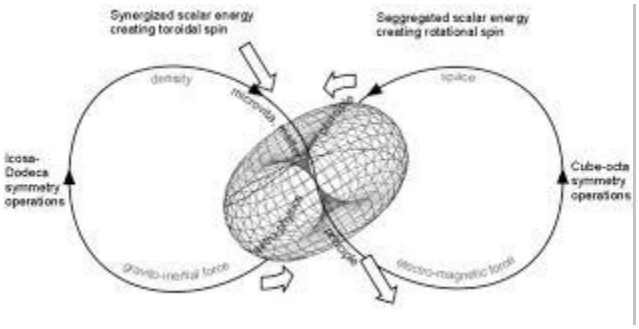





ELECTROMAGNETIC ATTRACTION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
POTENTIAL ENERGY GAINED BECOMES KINETIC ENERGY
ELECTROMAGNETIC REPULSION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
GRAVITATION BY UNCHARGED EXCHANGE RADIATION
INCOMING GAUGE BOSONS FROM DISTANT RECEDING UNIVERSE ARE REDSHIFTED, HENCE ATTRACTION

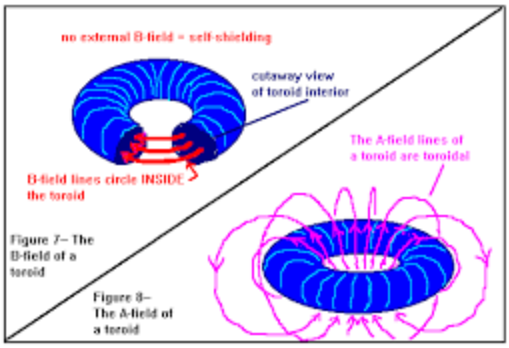

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electrogravity IV
ARANIA by Feydh Rotan

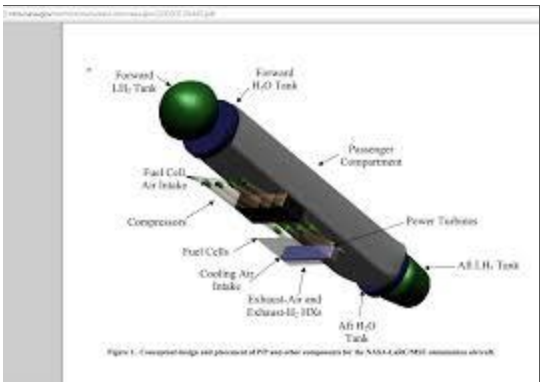

Synergized scalar energy creating toroidal spin
Segregated scalar energy creating rotational spin
density
space
Icosa-Dodeca symmetry operations
Cube-octa symmetry operations
gravito-inertial force
electro-magnetic force


- I Like This -
by Superstrobe
Incl. Remix by Feydh Rotan, Ryan Dupree, Jolix & Jakob Jung

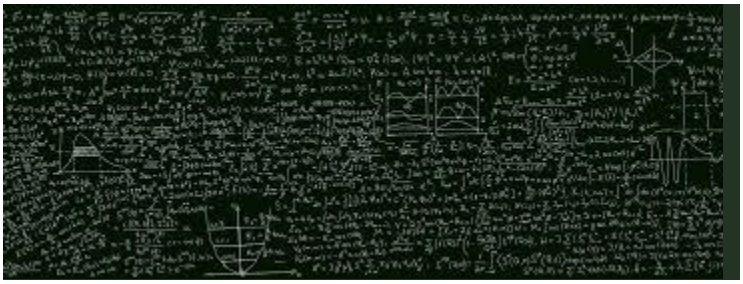

The Lifter-Craft project by JL Naudin - JLN Labs 2002

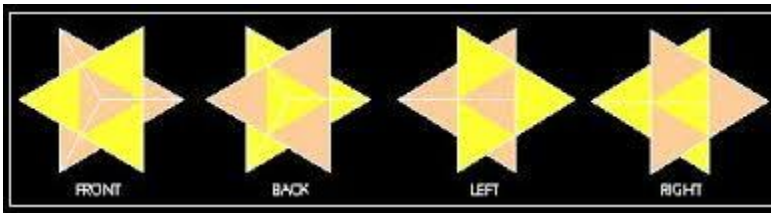

no external B-field = self-shielding
cutaway view of toroid interior
B-field lines circle INSIDE the toroid
The A-field lines of a toroid are toroidal
Figure 7– The B-field of a toroid
Figure 8– The A-field of a toroid

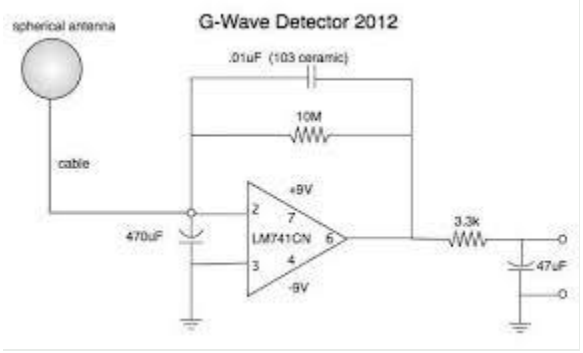


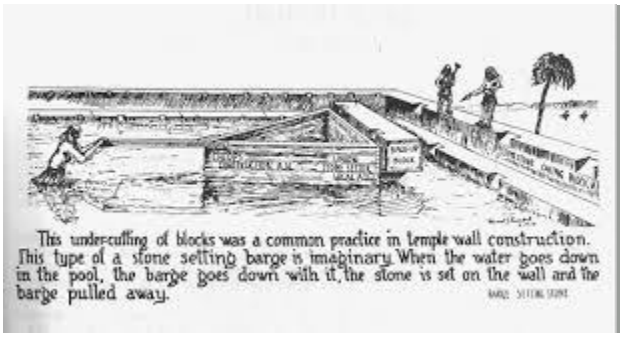






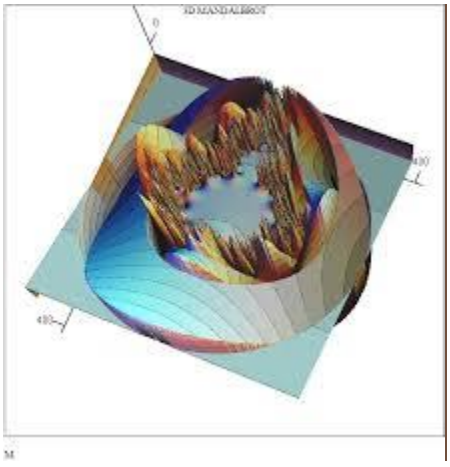






Electrogravity

- Major Scandal Brewing in US of Global Implications

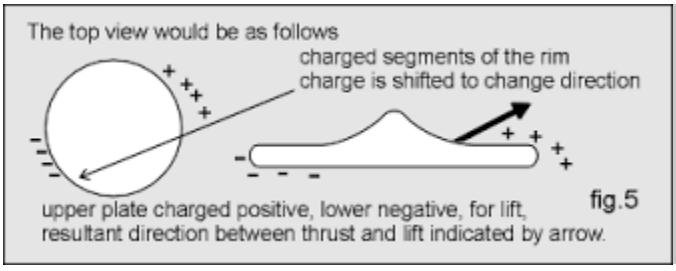


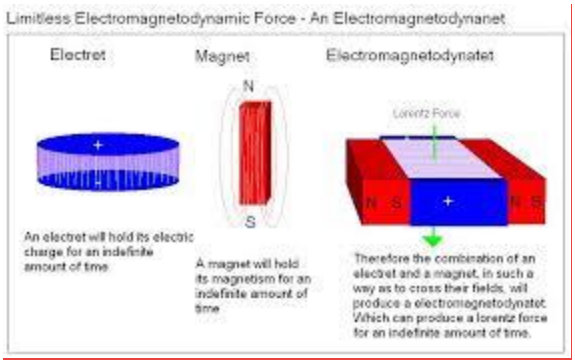
FASTER THAN LIGHT REPORT

A COLLECTION OF ARTICLES FOR RESEARCHERS



Integrity Research Institute

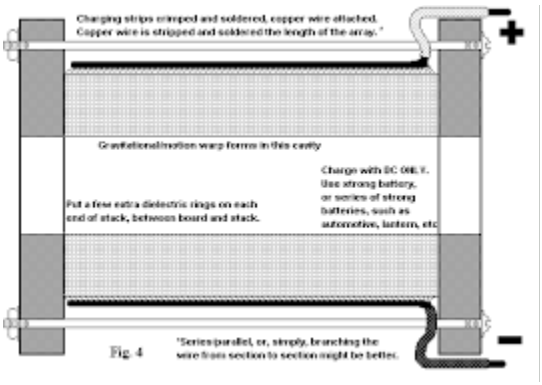


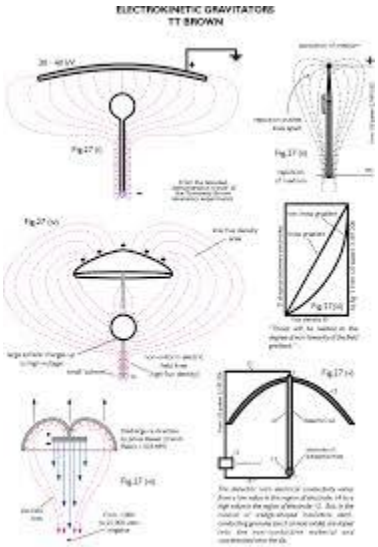

Limitless Electromagnetodynamic Force - An Electromagnetodynanet
Electret
Magnet
Electromagnetodynatet
N
S
Lorentz Force
An electret will hold its electric charge for an indefinite amount of time
A magnet will hold its magnetism for an indefinite amount of time
Therefore the combination of an electret and a magnet, in such a way as to cross their fields, will produce a electromagnetodynatet. Which can produce a lorentz force for an indefinite amount of time.

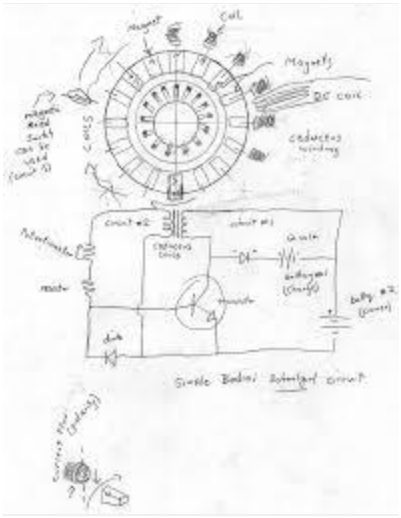

SOMEWHERE OUT THERE
2/6
Science Fiction

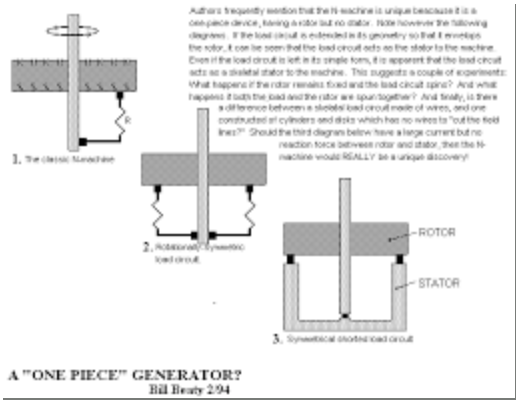


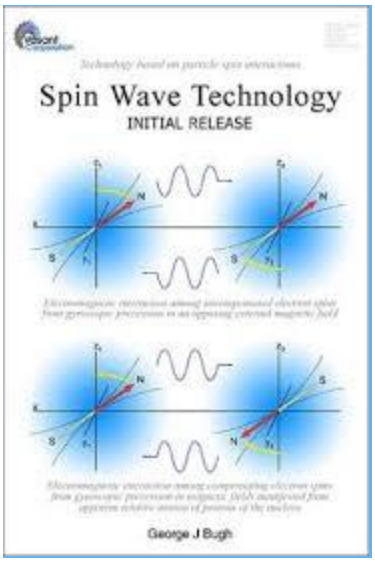

بشقاب پرنده های ساخته شده بر اساس خازن بیضه میتوانند جهت تعیین
انرژی و ایجاد رانش بالا از امواج فرکانس بالا رادیویی اوسالی توسط
دیش های زمینی برای تغذیه مدارات و پرواز استفاده کنندهر چه
فرکانس امواج رادیویی بالا تر باشد مدار گیرنده جهت تغذیه کوچکتر
سیکتر خواهد بود و خانوئی کردن انها بر روی بشقاب پرنده راحتر است
در بشقاب پرنده های خانوئی با استفاده از خلاء خانوئی میتوان براحتی
میلیاردها وات در صفحات خازن متور پرنده بدون جرقه زدن ایجاد کرد
همین امر موجب ایجاد سرعت و قدرت بالای بشقاب پرنده های خانوئی
بدون نیاز به مصرف بالای انرژی جهت بالا رفتن و پرواز پرسرعت در
انها گردیده است مطالب تکمیلی در سایت زیر
alipouratom - mr ali tanhazadeh iran khorasan


Charging strips crimped and soldered, copper wire attached. Copper wire is stripped and soldered the length of the array.
Gravitational/motion warp forms in this cavity
Charge with DC 000 V. Use strong battery, or series of strong batteries, such as automotive, lantern, etc.
Put a few extra dielectric rings on each end of stack, between board and stack.
Fig. 4
*Series/parallel, or, simply, branching the wire from section to section might be better.


ELECTROKINETIC GRAVITATORS
TT BROWN


Coil
Magnets
DC coil
Capacitor winding
Circuit #2
Circuit #1
Simple Bedini Motorlight Circuit





WHITTAKER PAPER 1903

E.T. Whittaker

On the Partial Differential Equations of Mathematical Physics

Mathematische Annalen

Vol. 57, 1903, p. 333-355.



$$z_{i,j} := \left| \begin{array}{l} z_{i,j} \leftarrow 0 \\ N \leftarrow 0 \\ \text{while } N < \text{ittr} \\ \quad \left| \begin{array}{l} N \leftarrow N + 1 \\ \text{continue if } |z_{i,j}| > 2 \\ z_{i,j} \leftarrow (z_{i,j})^2 + C_{i,j} \\ N \leftarrow 0 \text{ if } |z_{i,j}| > 2 \end{array} \right. \\ z_{i,j} \end{array} \right.$$



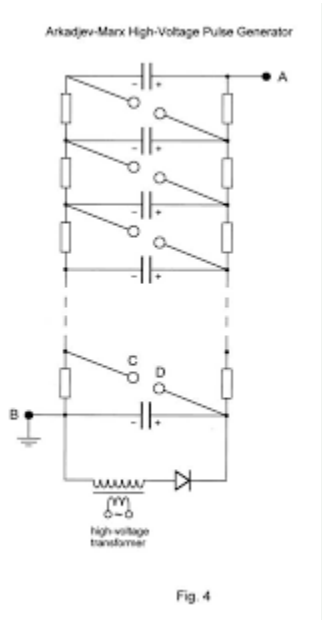
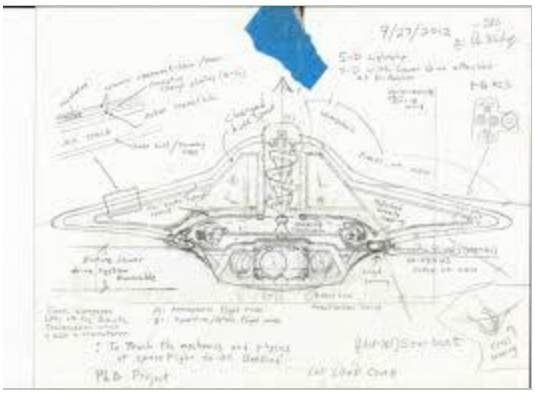
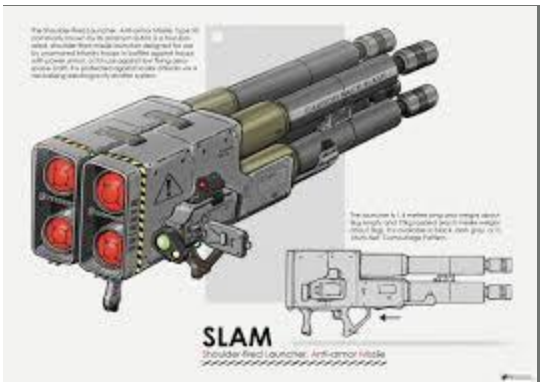
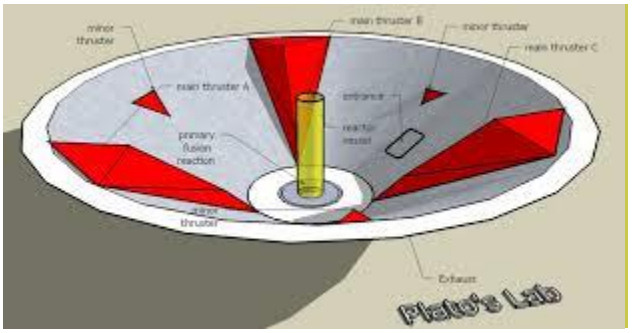


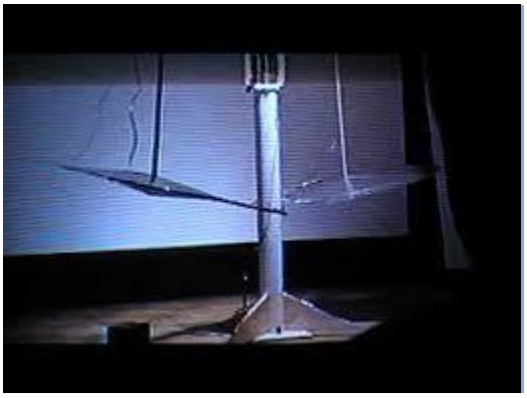
Fig. 4

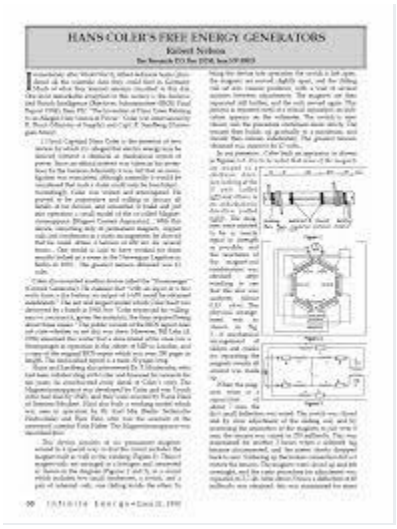


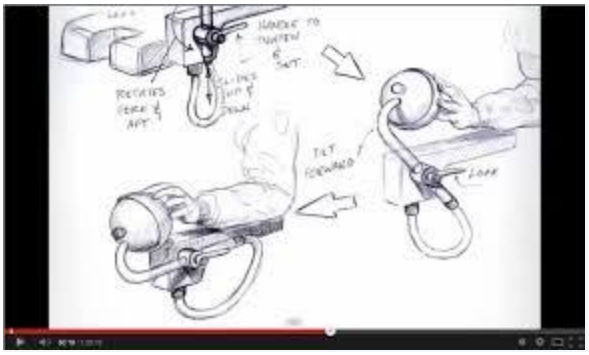

SLAM
Shoulder-fired Launcher, Anti-armor Missile


minor thruster
main thruster B
minor thruster
main thruster C
main thruster A
entrance
primary fusion reaction
reactor mount
minor thruster
Exhaust
Pixlr's Lab

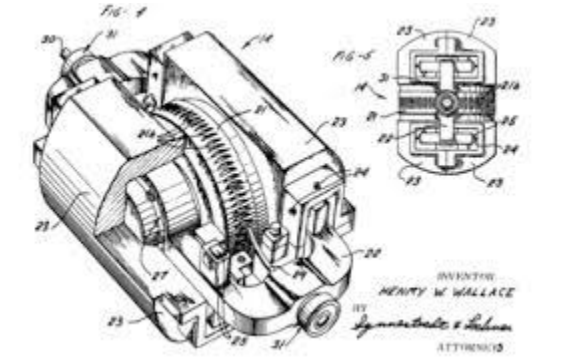

BORIS BREJCHA
fr 24.03.17
halle02

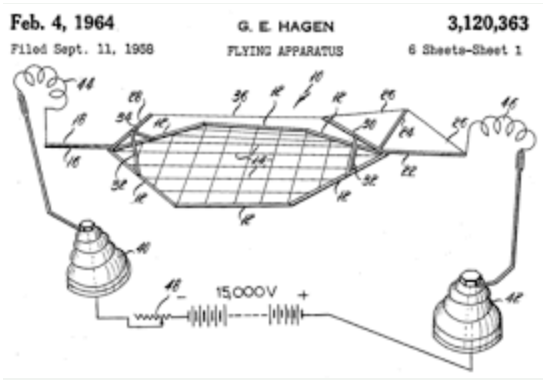


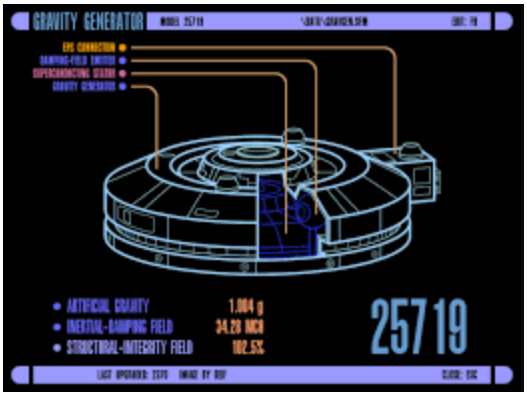

HANS COLER'S FREE ENERGY GENERATORS
Robert Nelson


HANDLE TO TIGHTEN & SHIFT
ROTATES FORE & AFT
TILT FORWARD
LOCK

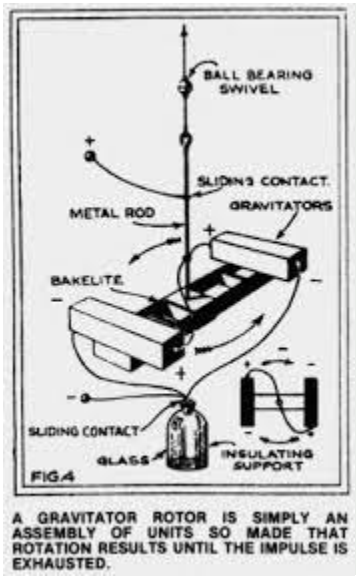


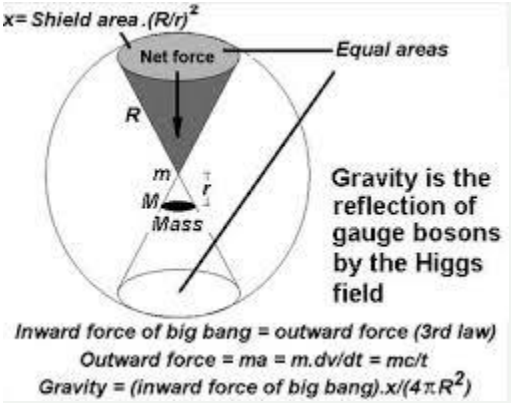

FIG. 4
FIG. 5
INVENTOR
HENRY W WALLACE
ATTORNEYS


Feb. 4, 1964
G. E. HAGEN
3,120,363
Filed Sept. 11, 1958
FLYING APPARATUS
6 Sheets-Sheet 1
15,000V

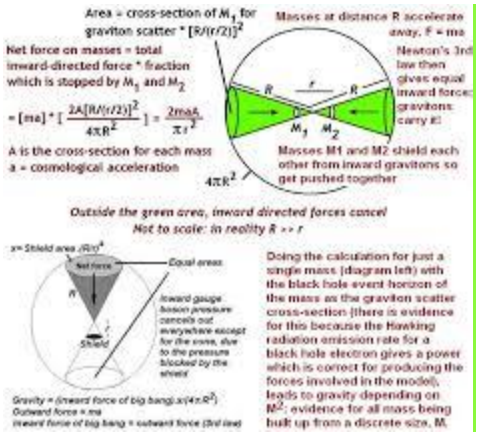

GRAVITY GENERATOR
ARTIFICIAL GRAVITY
INERTIAL-DAMPING FIELD
STRUCTURAL-INTEGRITY FIELD
25719

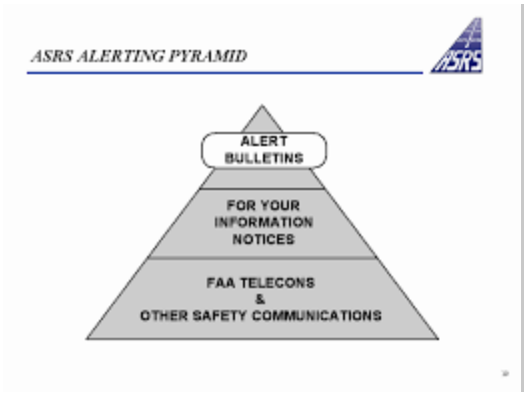

Has anyone ever done any research on what happens when we create a magnetic field and revolve it faster and faster?
No one realizes how everything changes in physics when velocities become extreme.


BALL BEARING SWIVEL
SLIDING CONTACT
METAL ROD
GRAVITATORS
BAKELITE
SLIDING CONTACT
GLASS
INSULATING SUPPORT
FIG.4
A GRAVITATOR ROTOR IS SIMPLY AN ASSEMBLY OF UNITS SO MADE THAT ROTATION RESULTS UNTIL THE IMPULSE IS EXHAUSTED.

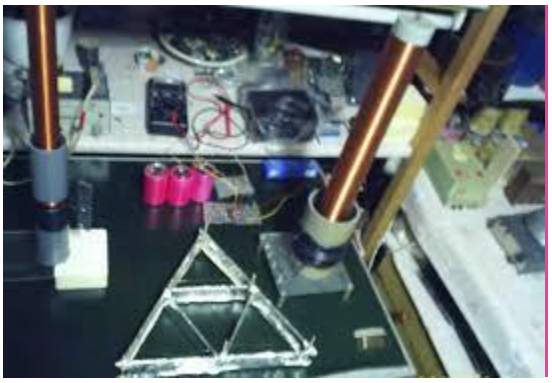

x= Shield area .(R/r)²
Net force
Equal areas
R
m
M
r
Mass
Gravity is the reflection of gauge bosons by the Higgs field
Inward force of big bang = outward force (3rd law)
Outward force = ma = m.dv/dt = mc/t
Gravity = (inward force of big bang).x/(4πR²)




Area = cross-section of M1 for graviton scatter * [R/(r/2)]²
Net force on masses = total inward-directed force * fraction which is stopped by M1 and M2
= [ma] * [2A[R/(r/2)]² / 4πR²] = 2maA / πr²
A is the cross-section for each mass
a = cosmological acceleration
4πR²
Masses at distance R accelerate away. F = ma
Newton's 3rd law then gives equal inward forces: gravitons carry it!
Masses M1 and M2 shield each other from inward gravitons so get pushed together
Outside the green area, inward directed forces cancel
Not to scale: in reality R >> r
Doing the calculation for just a single mass (diagram left) with the black hole event horizon of the mass as the graviton scatter cross-section (there is evidence for this because the Hawking radiation emission rate for a black hole electron gives a power which is correct for producing the forces involved in the model), leads to gravity depending on M²: evidence for all mass being built up from a discrete size, M.











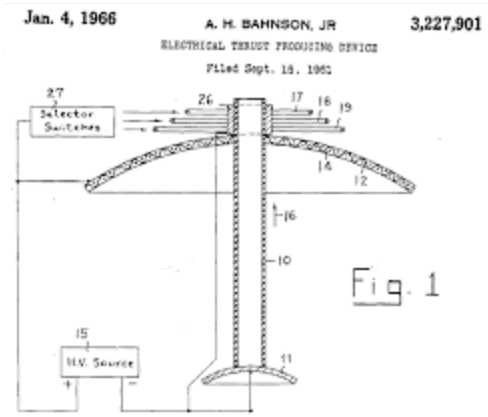
U(1) × SU(2) × SU(3) quantum gravity successes

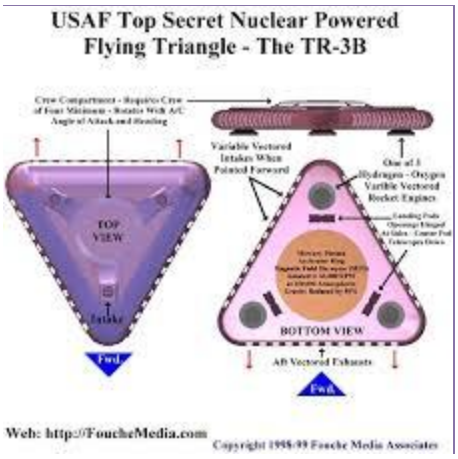




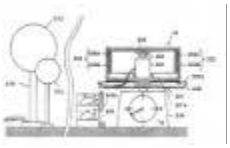


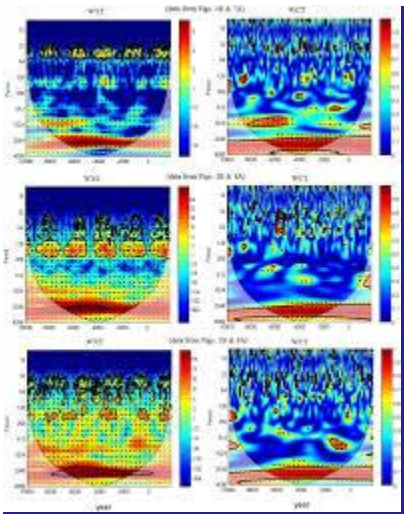


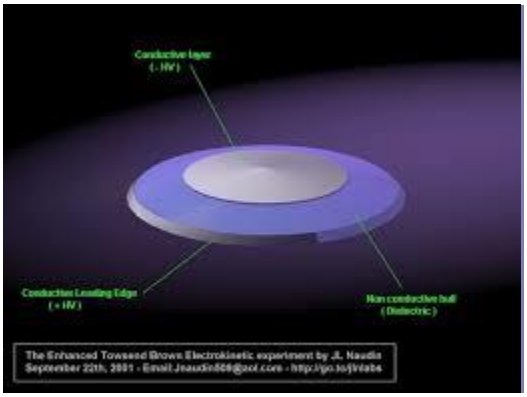

Jan. 4, 1966
A. H. BAHNSON, JR
3,227,901
ELECTRICAL THRUST PRODUCING DEVICE
Filed Sept. 18, 1961
Selector Switches
H.V. Source
Fig. 1


USAF Top Secret Nuclear Powered
Flying Triangle - The TR-3B
TOP VIEW
BOTTOM VIEW
Web: http://FoucheMedia.com
Copyright 1998-99 Fouche Media Associates

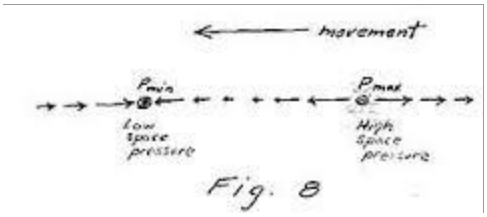




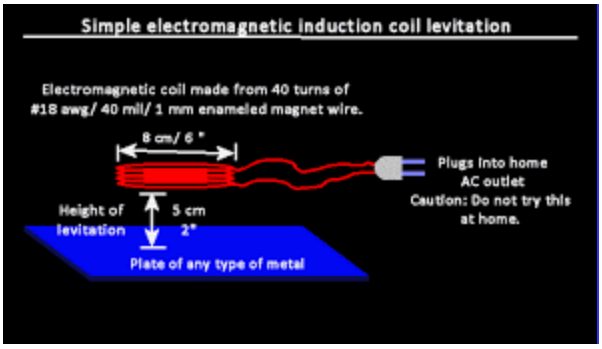



Conductive layer
(- HV)
Conductive Leading Edge
(+ HV)
Non conductive hull
(Dielectric)
The Enhanced Townsend Brown Electrokinetic experiment by JL Naudin
September 22th, 2001 - Email:Jnaudin509@aol.com - http://jnlabs


Brasília
INSTITUTO DE TECNOLOGIAS SUSTENTÁVEIS
NIKOLA TESLA


movement
Pmin
Pmax
Low Space pressure
High Space pressure
Fig. 8


Air Bag Test with the Lifter Basic
by JL Naudin - Oct 29, 2001
Email: Jnaudin509@aol.com
http://jnlabs











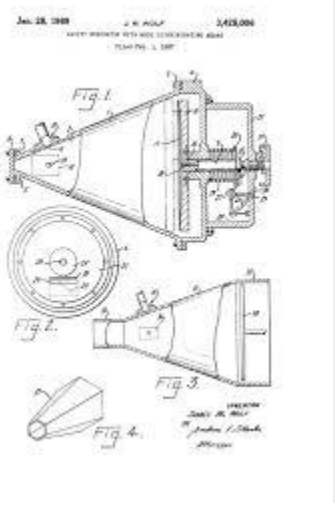
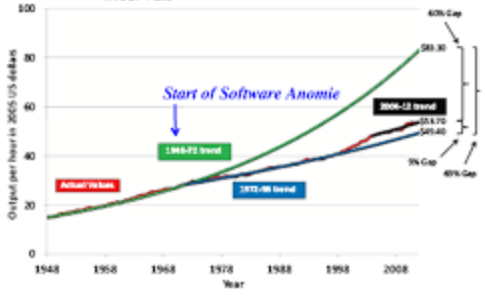
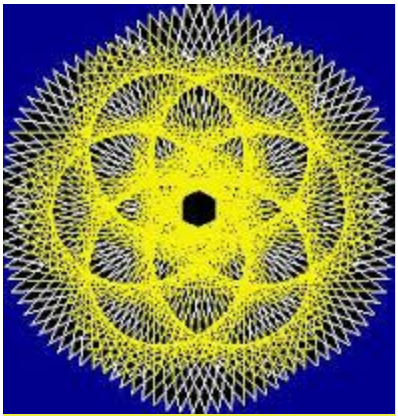
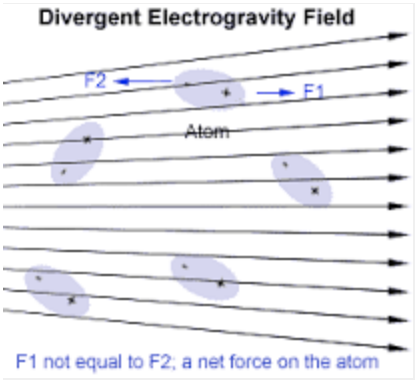


Figure 5 US labour productivity from 1948:1 to 2012:1, with trend growth rates over selected intervals








Divergent Electrogravity Field
F2
F1
Atom
F1 not equal to F2, a net force on the atom

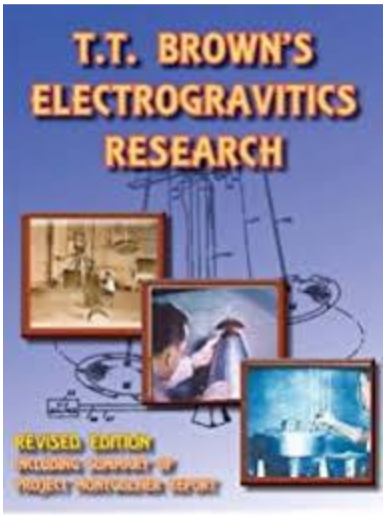

the final cut




Marius Renz
Trägheitsmoment


hiskia
lunaris
the remixes

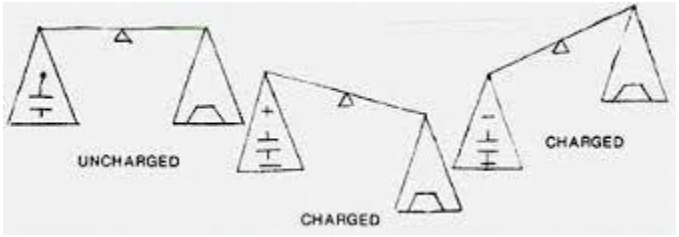



T.T. BROWN'S
ELECTROGRAVITICS
RESEARCH
REVISED EDITION

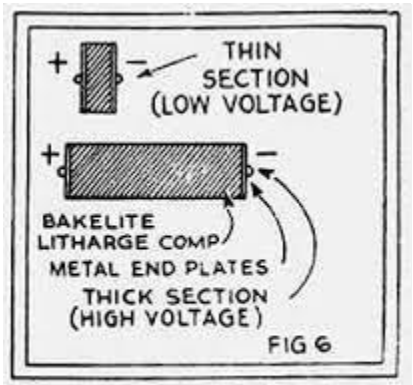

LITHIUM
FOUR FINGER LIDS







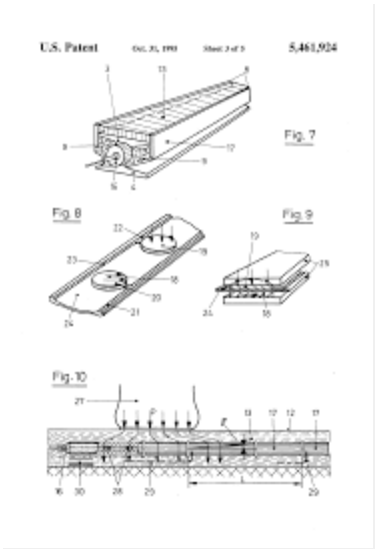


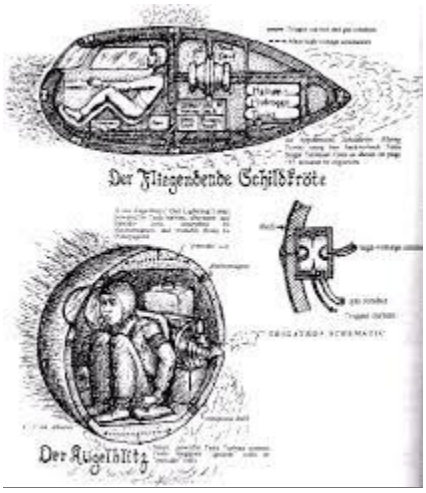


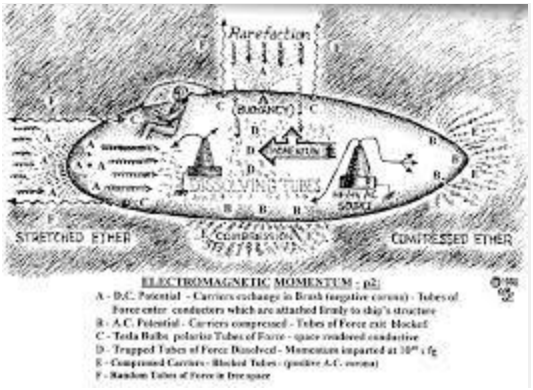
THE MOLECULAR TYPE GRAVITATOR IS MADE WITH A DIELECTRIC BLOCK AND METAL END PLATES OR ELECTRODES.











ELECTROMAGNETIC MOMENTUM - p2;

A - D.C. Potential - Carriers exchange in Brush (negative corona) - Tubes of Force enter conductors which are attached firmly to ship's structure

B - A.C. Potential - Carriers compressed - Tubes of Force exit blocked

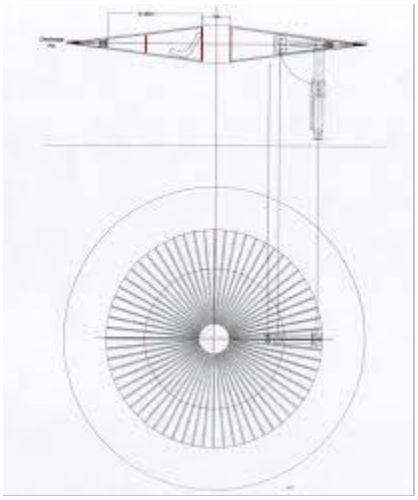
C - Tesla Balls polarize Tubes of Force - space rendered conductive

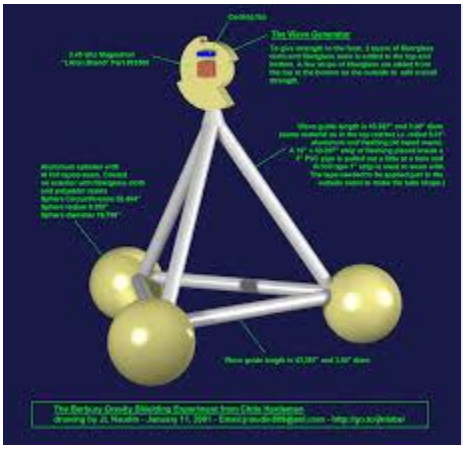
D - Trapped Tubes of Force Dissolved - Momentum imparted at 10^{44} ↑ fg

E - Compressed Carriers - Blocked Tubes - (positive A.C. corona)

F - Random Tubes of Force in free space



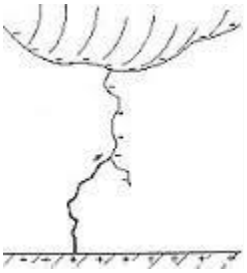


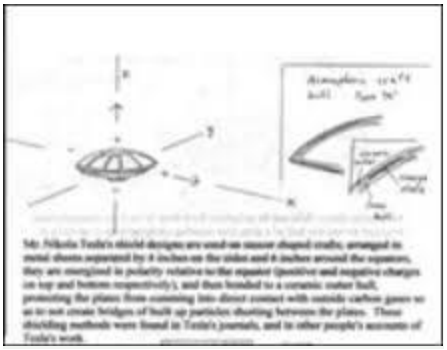




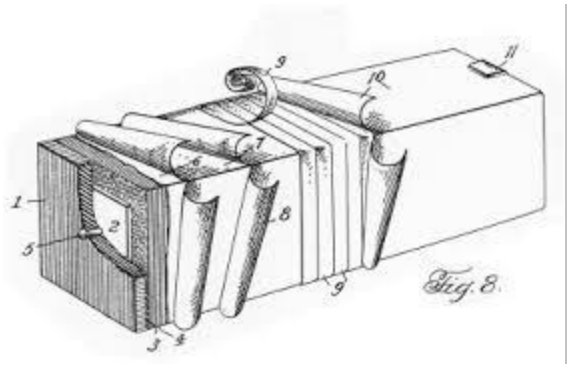
Los Angeles Times

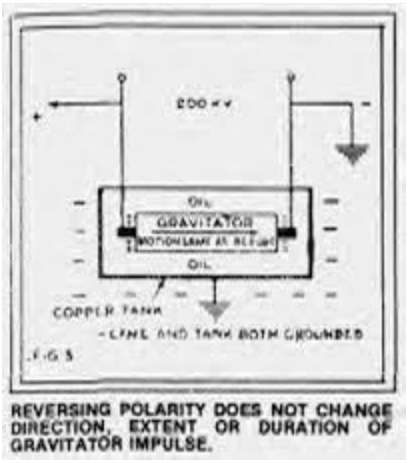
Flying Saucers 'Explained' by Man of New Research University Here

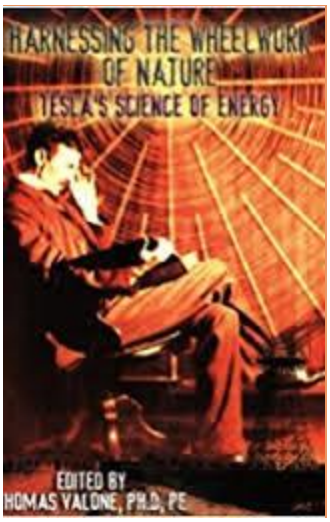




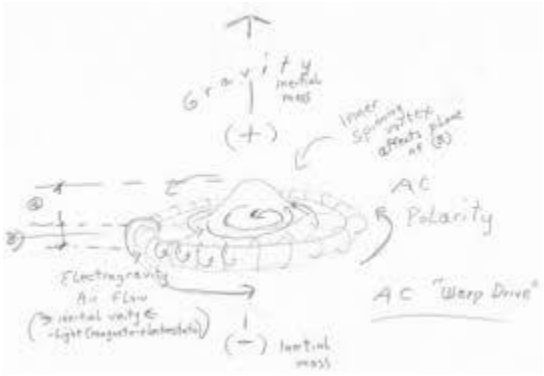
Mr. Nikola Tesla's shield designs are used on saucer shaped crafts, arranged in metal sheets separated by 4 inches on the sides and 6 inches around the equators, they are energized in polarity relative to the equator (positive and negative charges on top and bottom respectively), and then bonded to a ceramic outer hull, protecting the plates from coming into direct contact with outside carbon gases so as to not create bridges of built up particles shorting between the plates. These shielding methods were found in Tesla's journals, and in other people's accounts of Tesla's work.

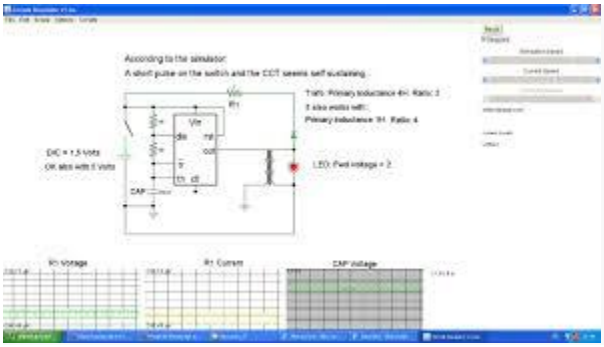



GRAVITATOR
OIL
OIL
COPPER TANK
REVERSING POLARITY DOES NOT CHANGE DIRECTION, EXTENT OR DURATION OF GRAVITATOR IMPULSE.


HARNESSING THE WHEELWORK OF NATURE
TESLA'S SCIENCE OF ENERGY
EDITED BY
HOMAS VALONE, PH.D., PE

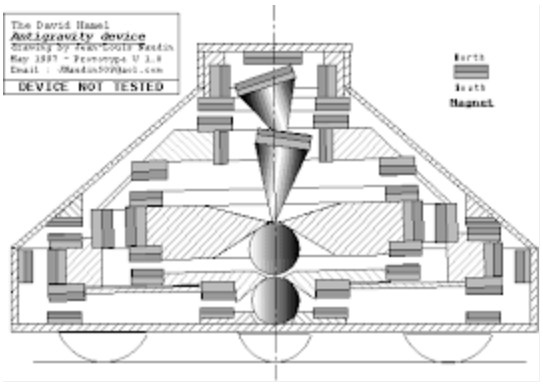



Gravity
inertial mass
(+)
AC
Polarity
Electrogravity
Air Flow
AC "Warp Drive"
(-) Inertial mass

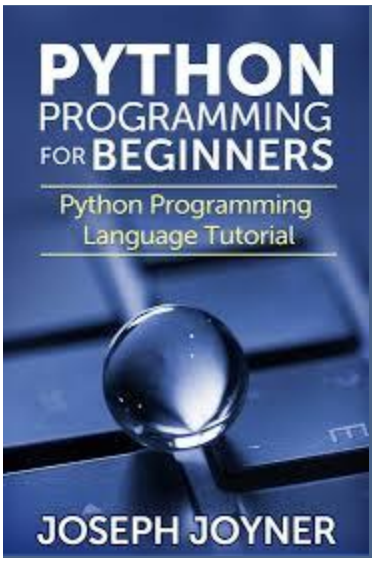


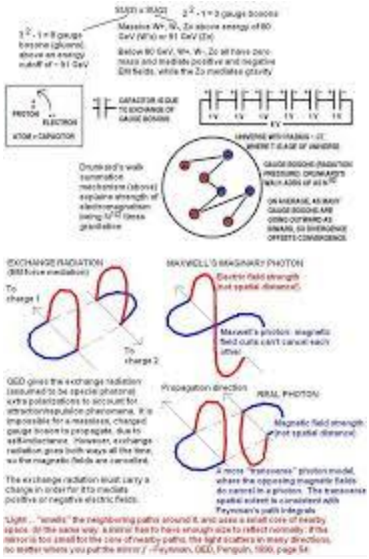

ANTIGRAVITY
REPORT
A COLLECTION

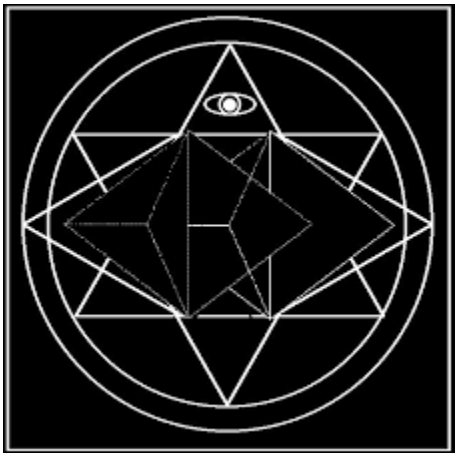

ELGRAV


The David Hamel
Antigravity device
DEVICE NOT TESTED
Earth
South
Magnet





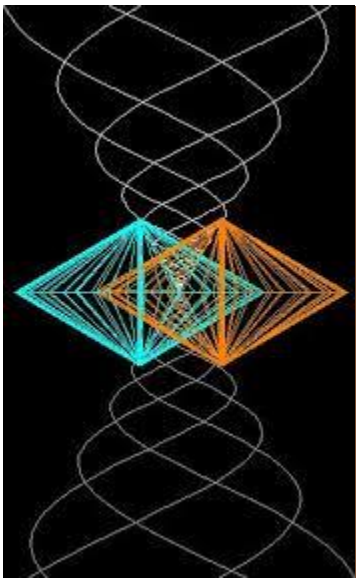


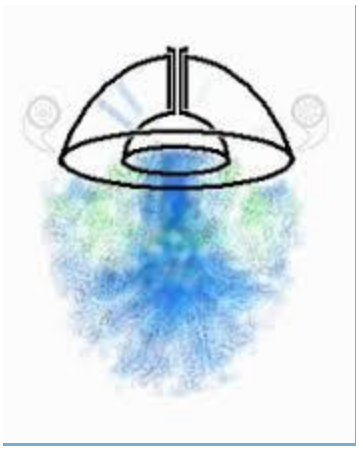


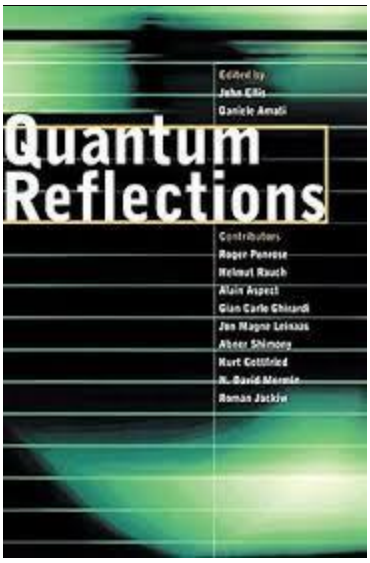


PHYSICIST T. TOWNSEND BROWN AND HIS ELECTROKINETIC APPARATUS








Edited by
John Ellis
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Jan Magne Leinaas
Abner Shimony
Kurt Gottfried
N. David Mermin
Roman Jackiw





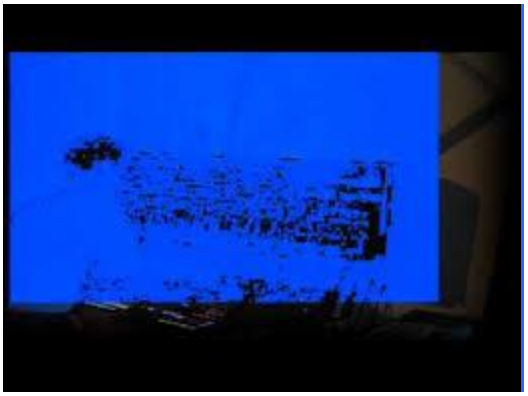


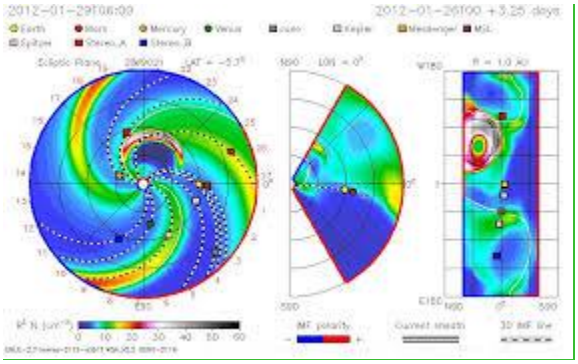

Dr. Paul LaViolette
Dev. Subquantum Kinetics

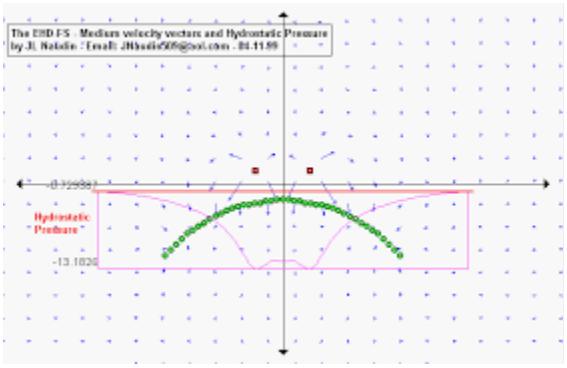



11 in
27 cm

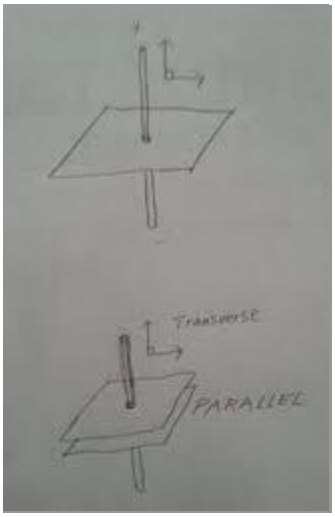


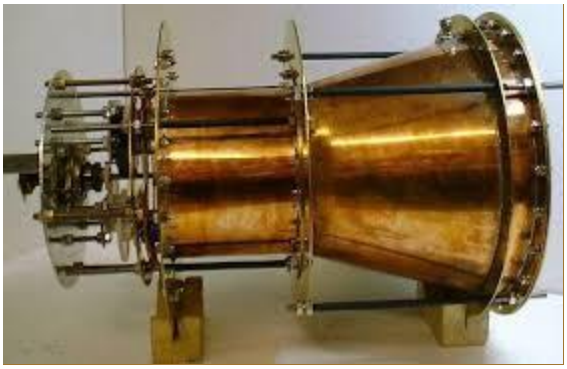


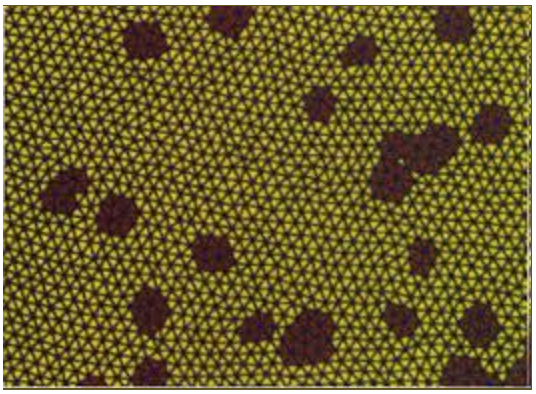

2012-01-29T08:09
2012-01-26T00 +3.25 days


The EHD FS : Medium velocity vectors and Hydrostatic Pressure
Hydrostatic Pressure

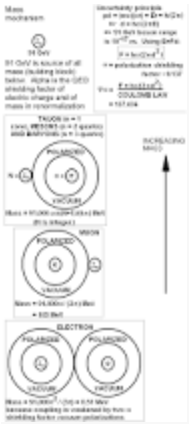

Lecture Notes in Physics
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Solutions of Einstein's Equations: Techniques and Results
Springer-Verlag
Berlin Heidelberg GmbH

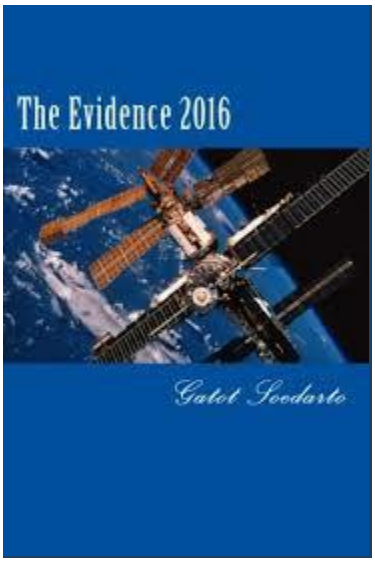

Transverse
PARALLEL



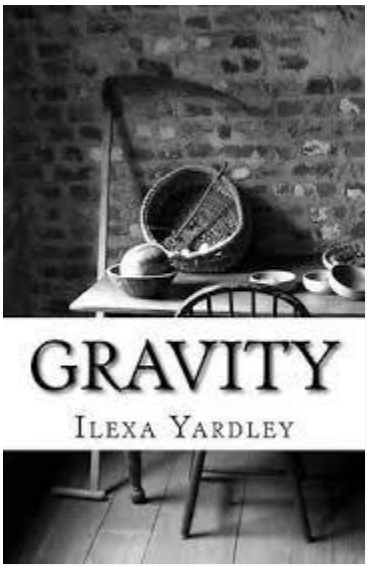




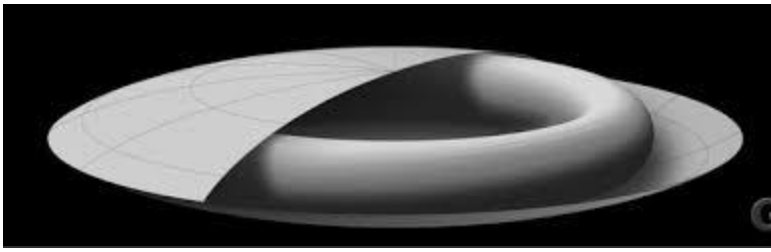


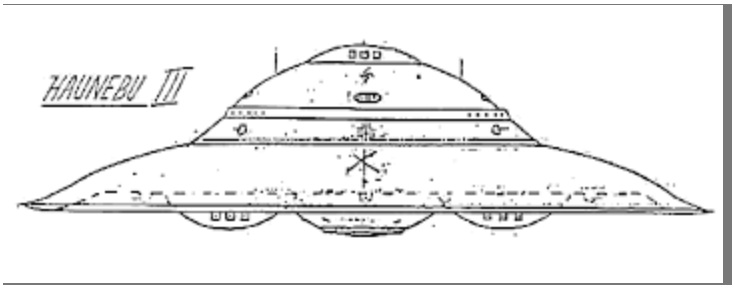

The Evidence 2016
Gatot Soedarto



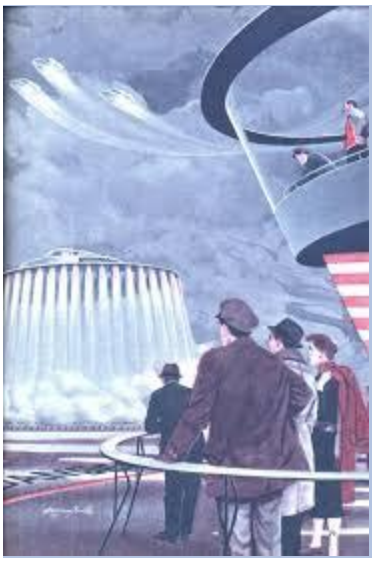

GRAVITY
ILEXA YARDLEY



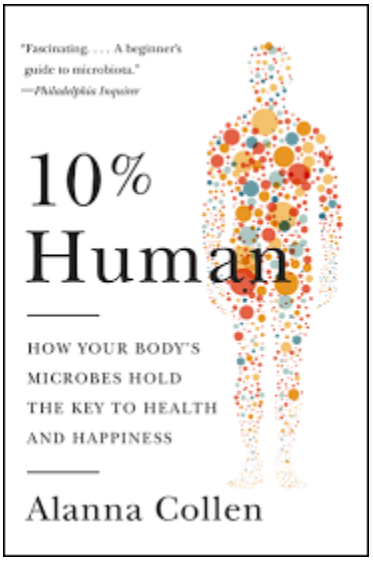


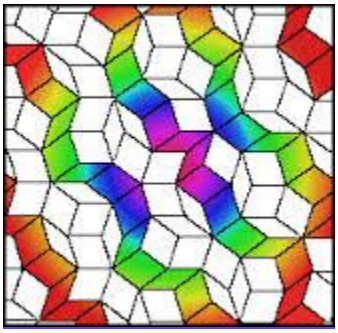

HAUNEBU III

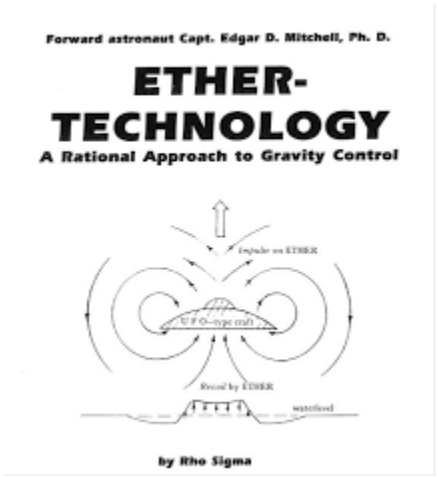

Electro Gravity
quersumme9
quersumme9 by jaix
golden tail by jaix




THE MANUAL OF
FREE ENERGY
DEVICES AND SYSTEMS
Volume II
by D.A. KELLY


"Fascinating . . . A beginner's guide to microbiota."
—Philadelphia Inquirer
10% Human
HOW YOUR BODY'S MICROBES HOLD THE KEY TO HEALTH AND HAPPINESS
Alanna Collen



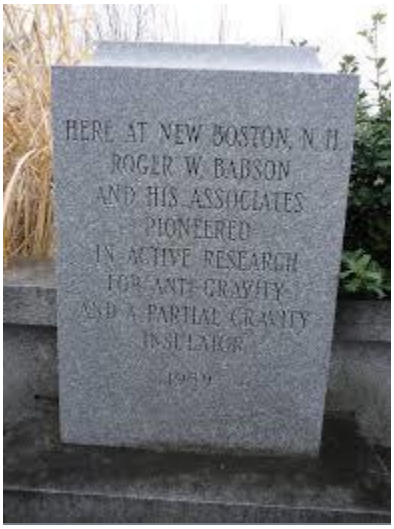

Forward astronaut Capt. Edgar D. Mitchell, Ph. D.
ETHER-TECHNOLOGY
A Rational Approach to Gravity Control
by Rho Sigma

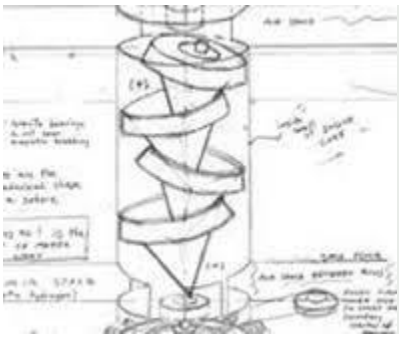

The Schumann Resonances
30 Second Average Spectra Over 8-Hour Period
7.8 Hz
14 Hz
20 Hz
26 Hz
33 Hz
39 Hz
45 Hz

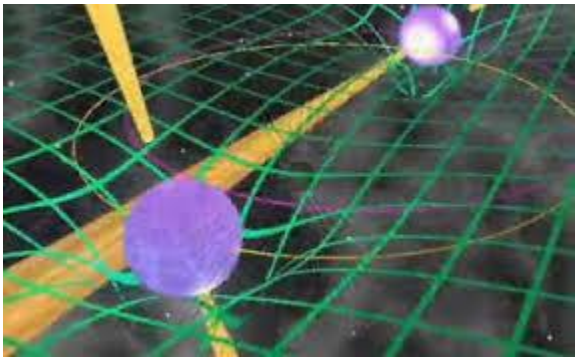



ELECTRO GRAVITY

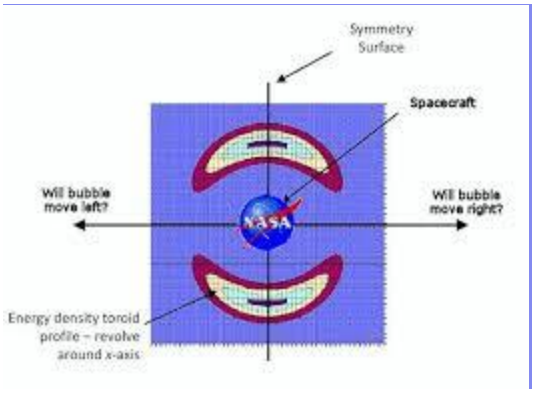


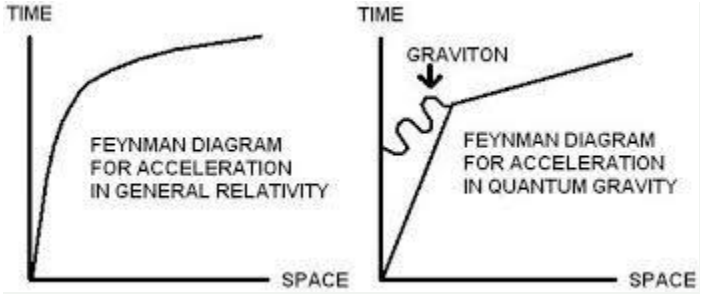

HERE AT NEW BOSTON, N. H.
ROGER W. BABSON
AND HIS ASSOCIATES
PIONEERED
IN ACTIVE RESEARCH
FOR ANTI-GRAVITY
AND A PARTIAL GRAVITY
INSULATOR



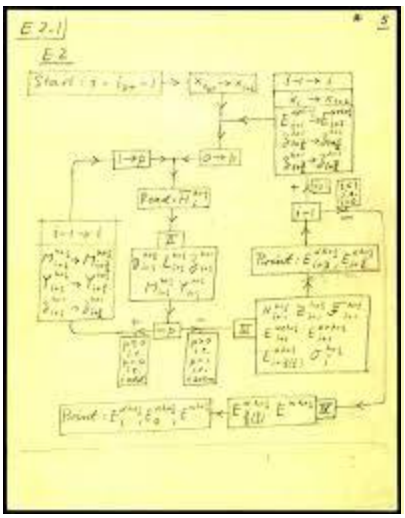





Symmetry Surface
Spacecraft
Will bubble move left?
Will bubble move right?
NASA
Energy density toroid profile – revolve around x-axis

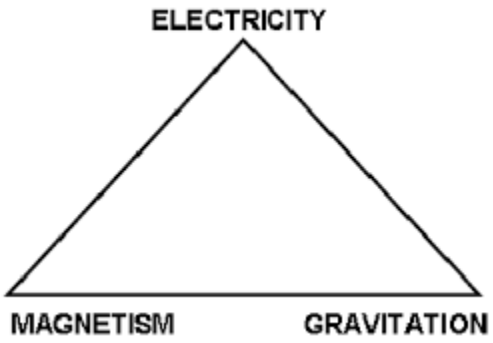

TIME
FEYNMAN DIAGRAM
FOR ACCELERATION
IN GENERAL RELATIVITY
SPACE
TIME
GRAVITON
FEYNMAN DIAGRAM
FOR ACCELERATION
IN QUANTUM GRAVITY
SPACE



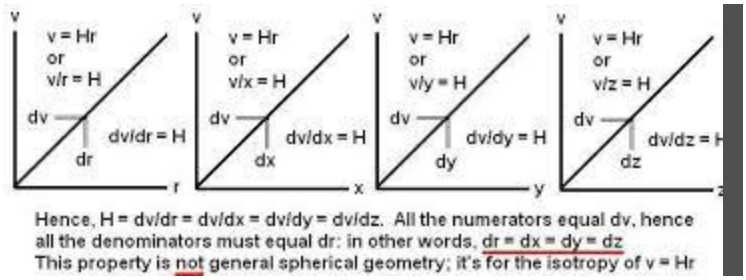




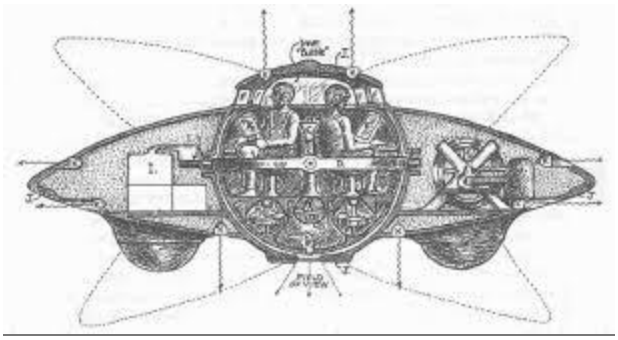








Hence, H = dv/dr = dv/dx = dv/dy = dv/dz. All the numerators equal dv, hence all the denominators must equal dr: in other words, dr = dx = dy = dz
This property is not general spherical geometry; it's for the isotropy of v = Hr





Pendulum in a Glass Cylinder under Vacuum

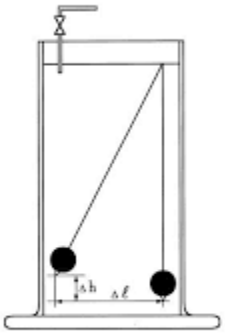
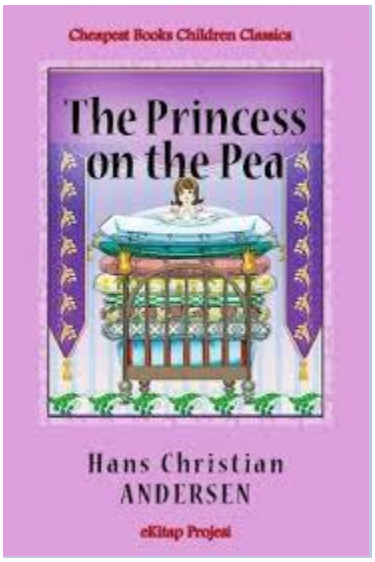
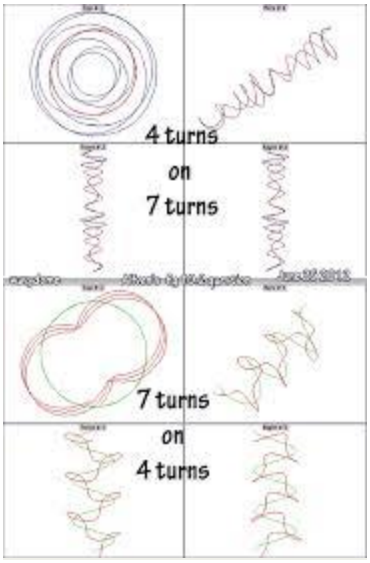


Fig. 5



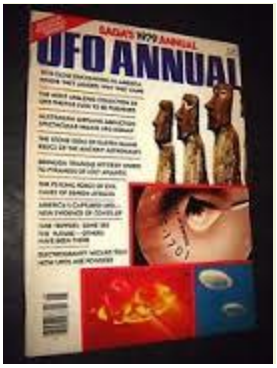


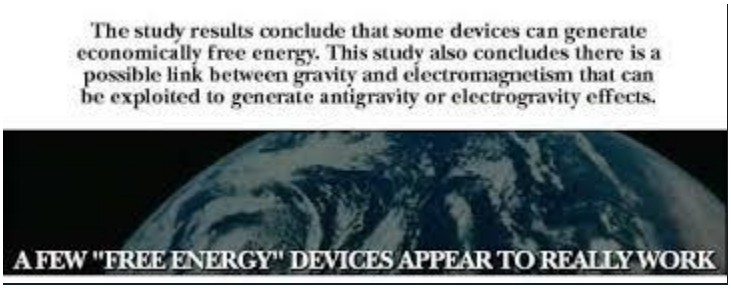




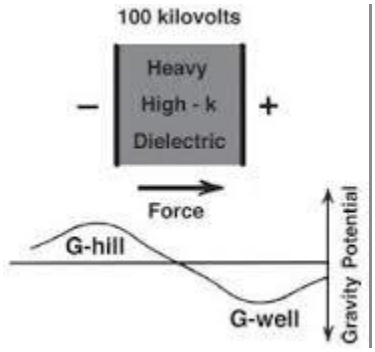



Abner Shimony
Der Kampf um den verlorenen Tag
Eine Geschichte aus der Renaissance
Springer Basel AG

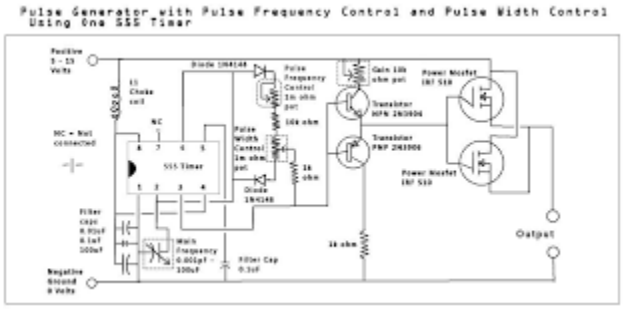

UFO ANNUAL

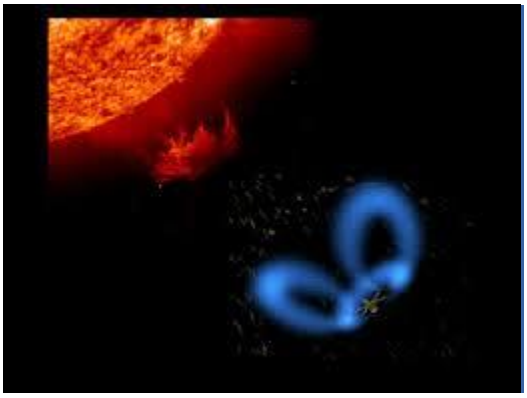

The study results conclude that some devices can generate economically free energy. This study also concludes there is a possible link between gravity and electromagnetism that can be exploited to generate antigravity or electrogravity effects.
A FEW "FREE ENERGY" DEVICES APPEAR TO REALLY WORK

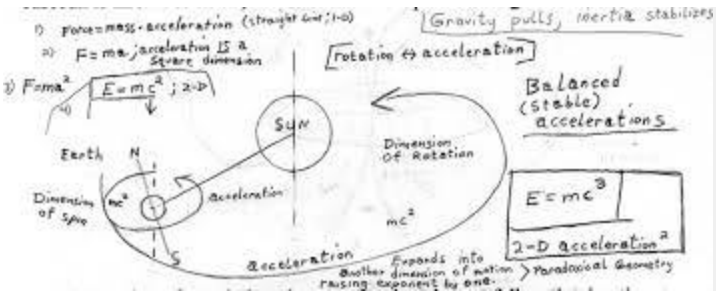

Raum und Zeit
in der gegenwärtigen Physik
Moritz Schlick
Berlin
Verlag von Julius Springer

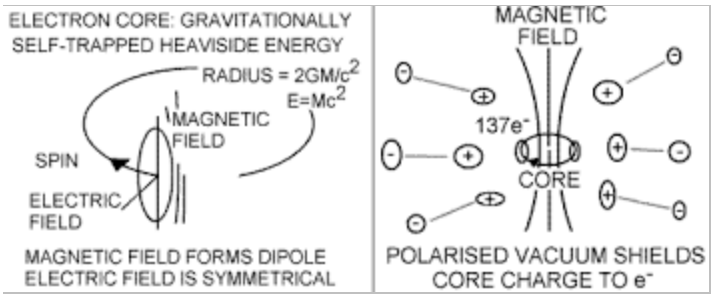

100 kilovolts
Heavy
High - k
Dielectric
Force
G-hill
G-well
Gravity Potential


Lithium

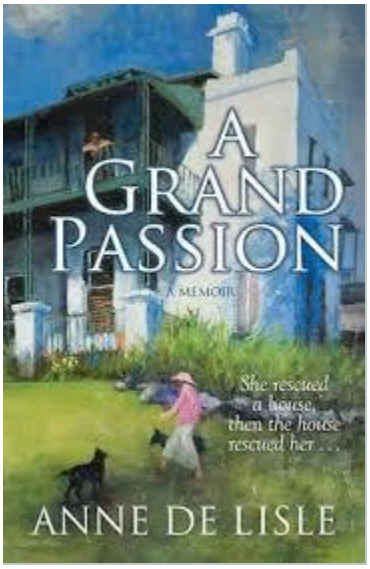

Pulse Generator with Pulse Frequency Control and Pulse Width Control
Using One 555 Timer
Positive 5 - 15 Volts
555 Timer
Output
Negative Ground 0 Volts

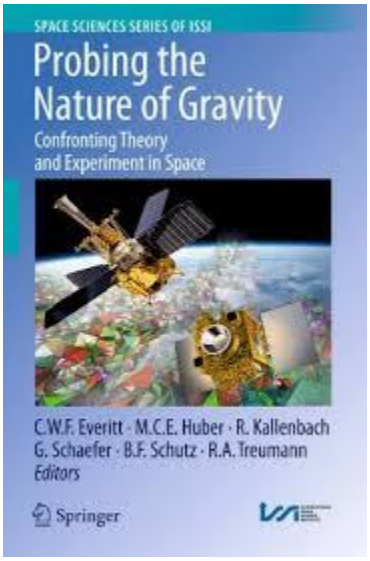



Force = mass · acceleration (straight line; 1-D)
F = ma; acceleration is a square dimension
Gravity pulls, inertia stabilizes
rotation ↔ acceleration
Balanced (stable) accelerations
SUN
Earth
Dimension of Rotation
Dimension of Spin
acceleration
$E = mc^2$; 2-D
$E = mc^3$
2-D acceleration^2
Paradoxical Geometry

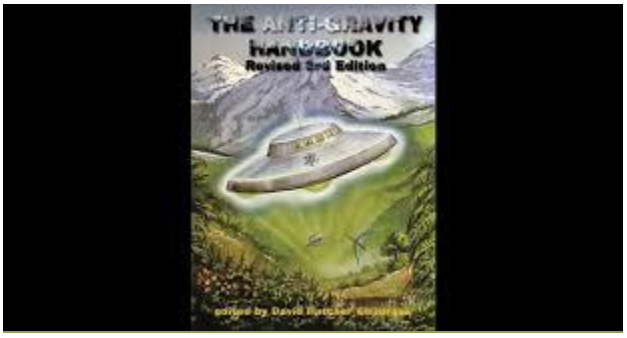

ELECTRON CORE: GRAVITATIONALLY SELF-TRAPPED HEAVISIDE ENERGY
RADIUS = 2GM/c2
E=Mc2
MAGNETIC FIELD
SPIN
ELECTRIC FIELD
MAGNETIC FIELD FORMS DIPOLE ELECTRIC FIELD IS SYMMETRICAL
MAGNETIC FIELD
137e-
CORE
POLARISED VACUUM SHIELDS CORE CHARGE TO e-

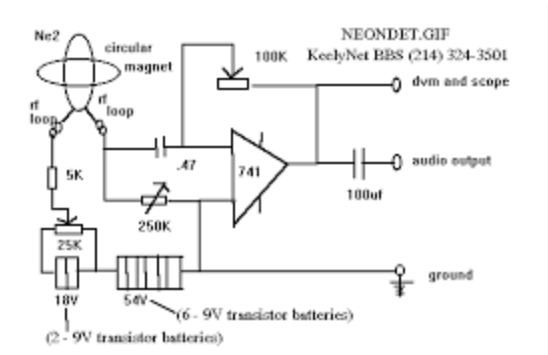

2.0
moons


A GRAND PASSION
A MEMOIR
She rescued a house, then the house rescued her . . .
ANNE DE LISLE

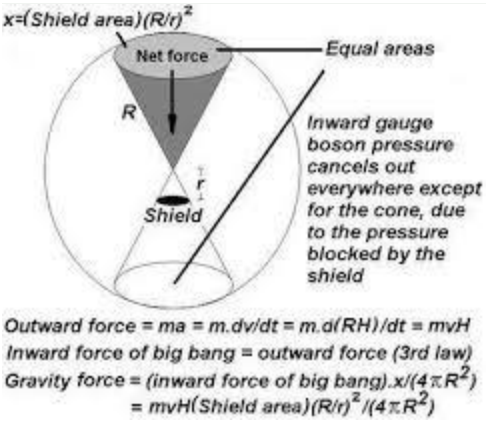

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Confronting Theory and Experiment in Space
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G. Schaefer · B.F. Schutz · R.A. Treumann
Editors
Springer




THE ANTI-GRAVITY HANDBOOK
Revised 3rd Edition

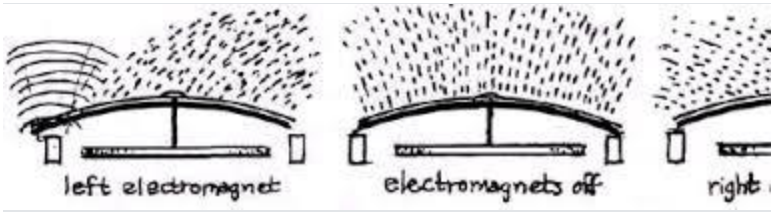

NEONDET.GIF
KeelyNet BBS (214) 324-3501
Ne2
circular magnet
rf loop
rf loop
100K
dvm and scope
.47
741
audio output
100uf
5K
250K
25K
18V
54V
ground
(6 - 9V transistor batteries)
(2 - 9V transistor batteries)

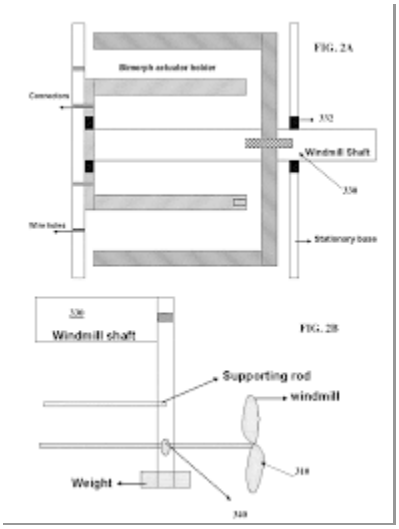

Solr



Outward force = ma = m.dv/dt = m.d(RH)/dt = mvH
Inward force of big bang = outward force (3rd law)
Gravity force = (inward force of big bang).x/(4πR²)
= mvH(Shield area)(R/r)²/(4πR²)



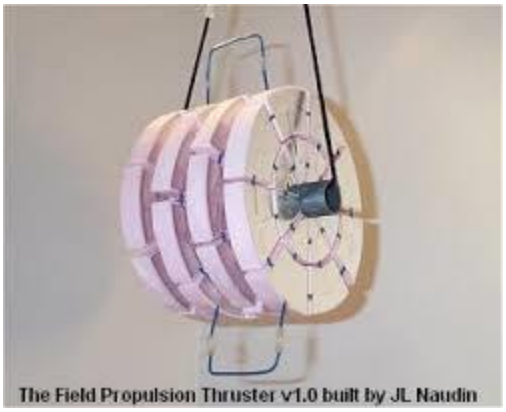


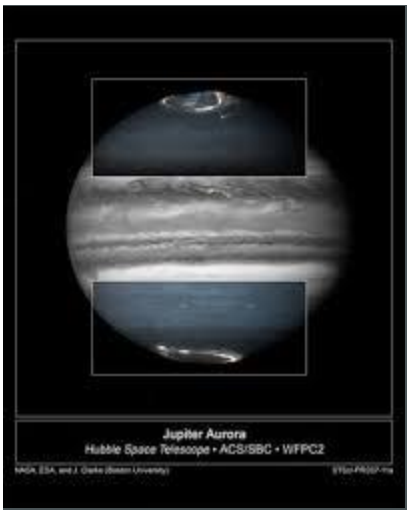











Jupiter Aurora
Hubble Space Telescope • ACS/SBC • WFPC2

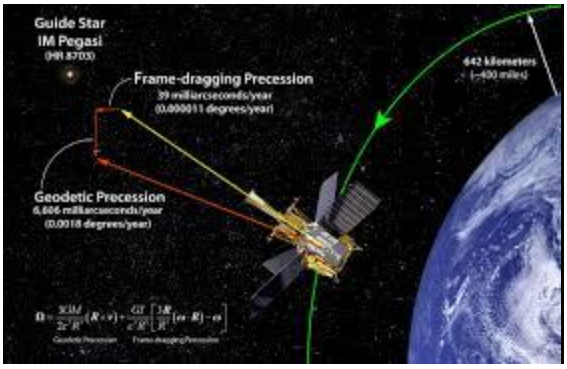


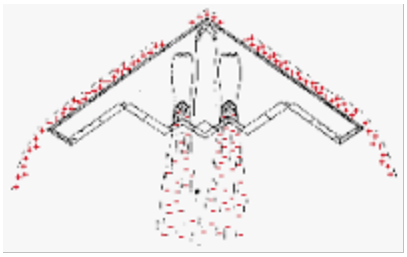

Forward astronaut Capt. Edgar D. Mitchell, Ph. D.
ETHER-
TECHNOLOGY
A Rational Approach to Gravity Control
by Rho Sigma
THE UNDERGROUND CLASSIC IS BACK IN PRINT!

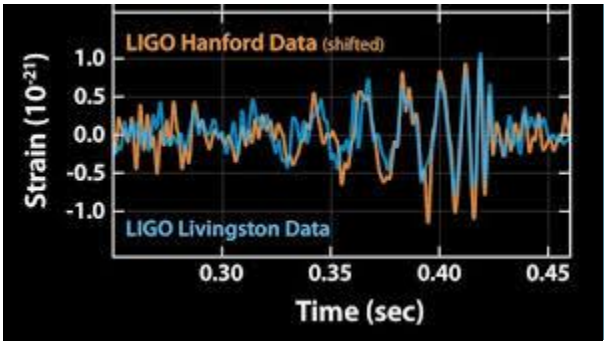

2cm Iron Wire



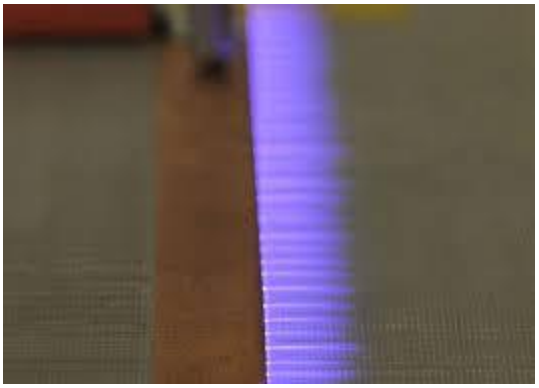



Guide Star
IM Pegasi
(HR 8703)
Frame-dragging Precession
39 milliarcseconds/year
(0.0000011 degrees/year)
642 kilometers
(~400 miles)
Geodetic Precession
6,606 milliarcseconds/year
(0.0018 degrees/year)




LIGO Hanford Data (shifted)
LIGO Livingston Data
Strain (10-21)
1.0
0.5
0.0
-0.5
-1.0
0.30
0.35
0.40
0.45
Time (sec)

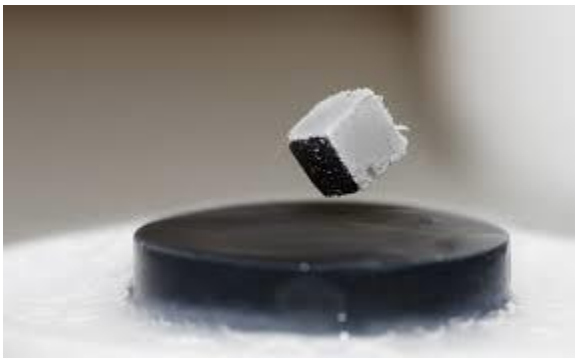


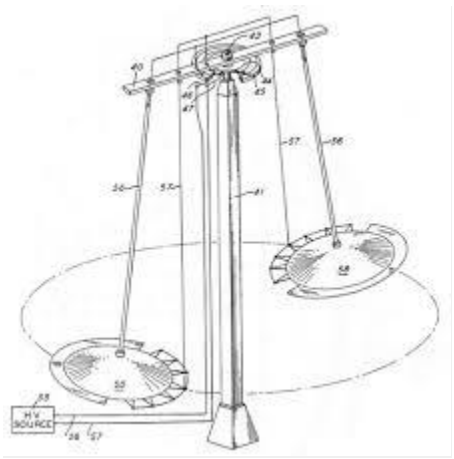




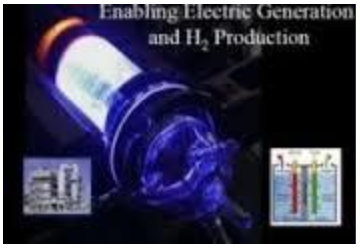


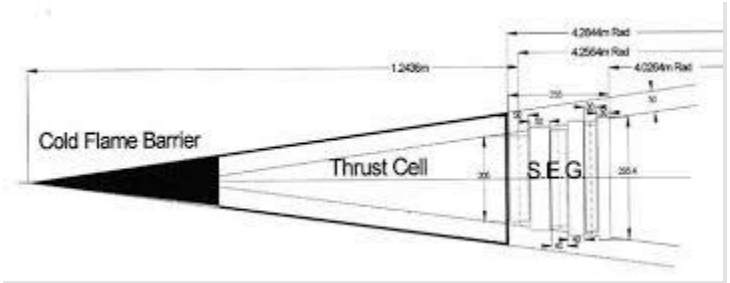


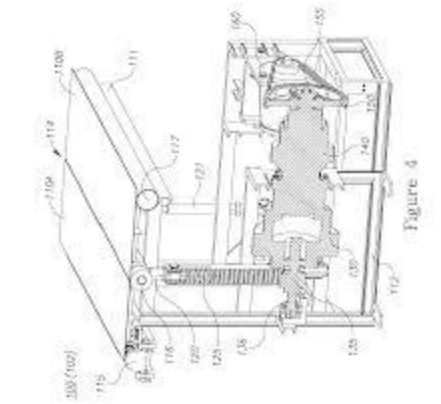


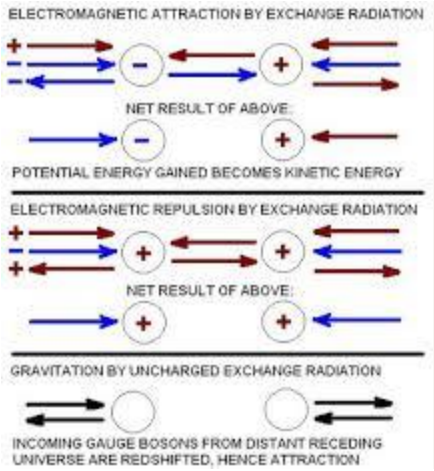

H.V. SOURCE




Enabling Electric Generation
and H_2 Production


4.2644m Rad
4.2564m Rad
4.0264m Rad
1.2436m
Cold Flame Barrier
Thrust Cell
S.E.G.

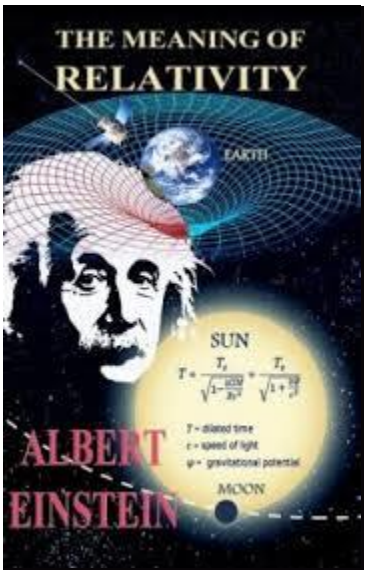

Figure 4

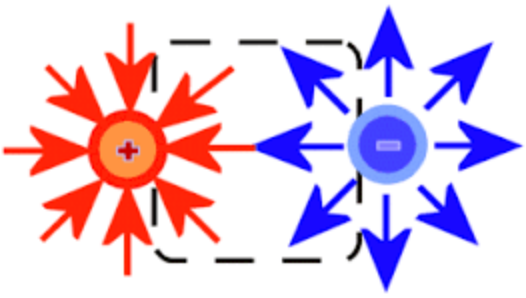

ELECTROMAGNETIC ATTRACTION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
POTENTIAL ENERGY GAINED BECOMES KINETIC ENERGY
ELECTROMAGNETIC REPULSION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
GRAVITATION BY UNCHARGED EXCHANGE RADIATION
INCOMING GAUGE BOSONS FROM DISTANT RECEDING UNIVERSE ARE REDSHIFTED, HENCE ATTRACTION

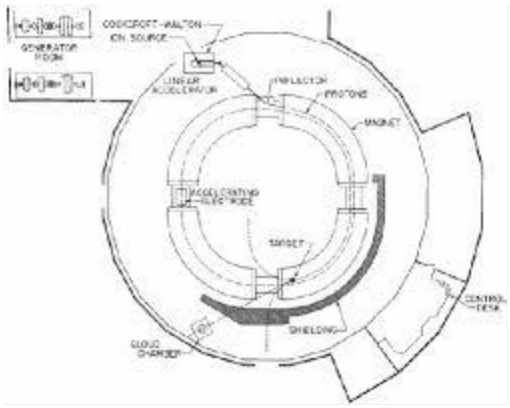




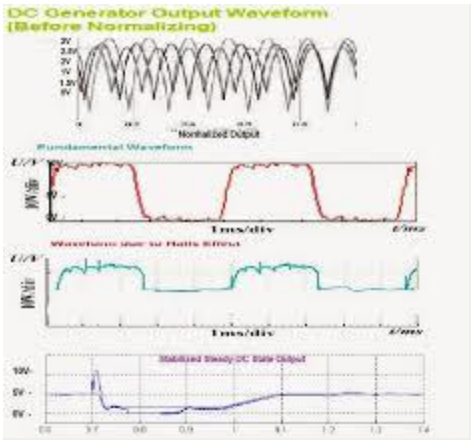

Revised 2nd Edition


THE MEANING OF
RELATIVITY
EARTH
SUN
MOON
ALBERT
EINSTEIN

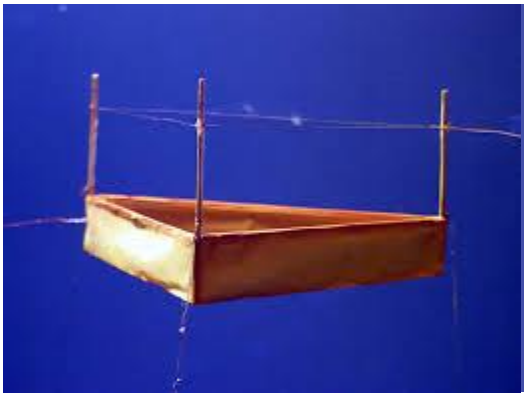



MAGNET
SHIELDING



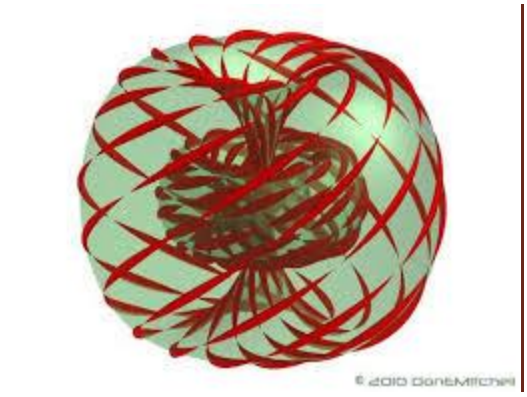

DC Generator Output Waveform
(Before Normalizing)
Normalized Output
Fundamental Waveform
1ms/div
Waveform due to Hall's Effect
1ms/div
Stabilized Steady DC State Output

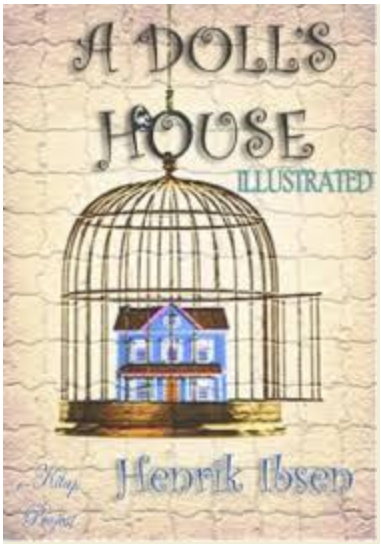







The LIFTER Project
©J&N Labs 2001

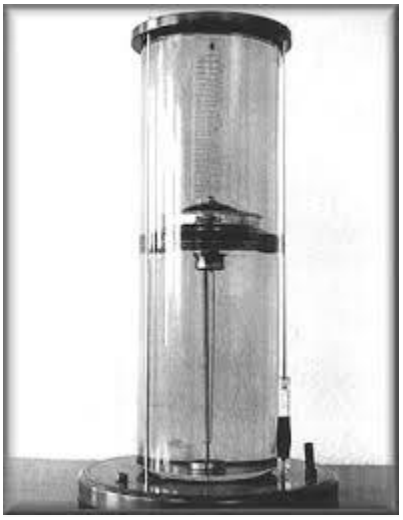

© 2010 DonMitchell


A DOLL'S HOUSE
ILLUSTRATED
Henrik Ibsen

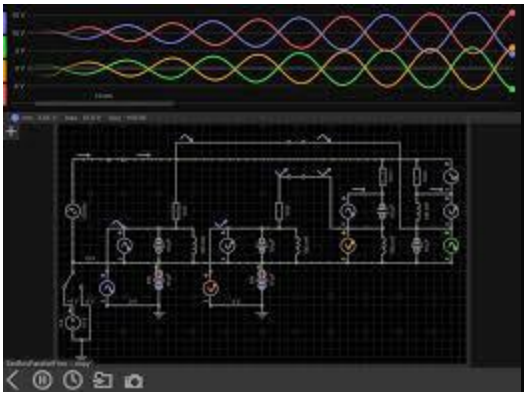





Tan Solo Dejame Sumergirme En Mi Miseria Personal...
Despues Hablaremos



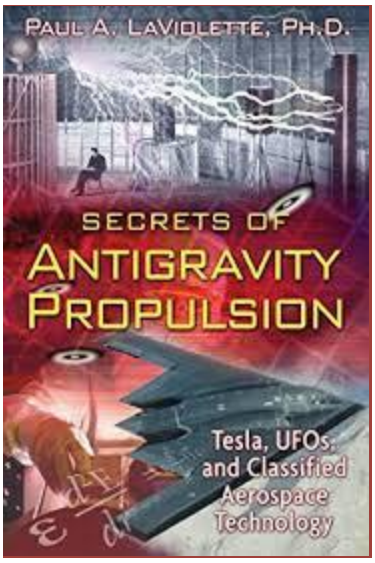







Ancient
CODE
...en Español.

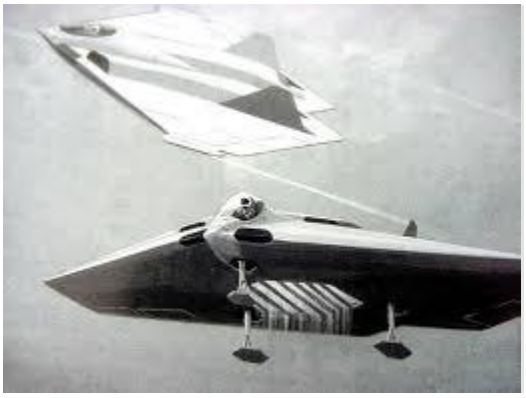

Morton





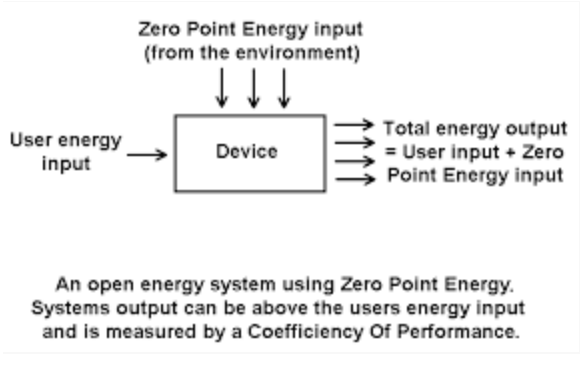










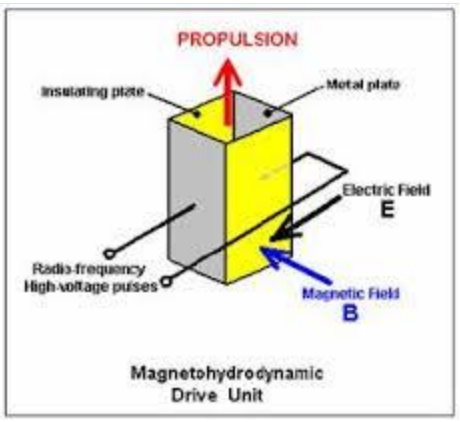


An open energy system using Zero Point Energy.
Systems output can be above the users energy input
and is measured by a Coefficiency Of Performance.

$$\delta S$$

$$= \int \left[\frac{1}{2\kappa} \left(\frac{\delta R}{\delta g^{\mu\nu}} + \frac{R}{\sqrt{-g}} \frac{\delta \sqrt{-g}}{\delta g^{\mu\nu}} \right) + \frac{1}{\sqrt{-g}} \frac{\delta \left(\sqrt{-g} \mathcal{L}_{\mathrm{M}} \right)}{\delta g^{\mu\nu}} \right]$$

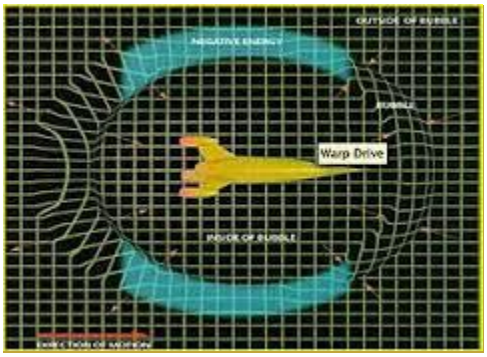
$$\cdot \delta g^{\mu\nu} \sqrt{-g} \mathrm{d}^4 x = 0$$

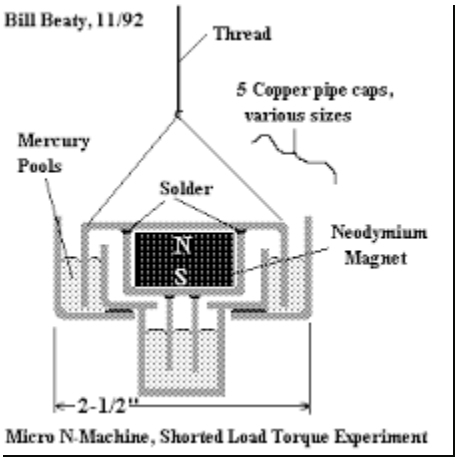

PROPULSION
Insulating plate
Metal plate
Electric Field
E
Radio-frequency
High-voltage pulses
Magnetic Field
B
Magnetohydrodynamic
Drive Unit


Prime
(19 Reviews)

1 day ago

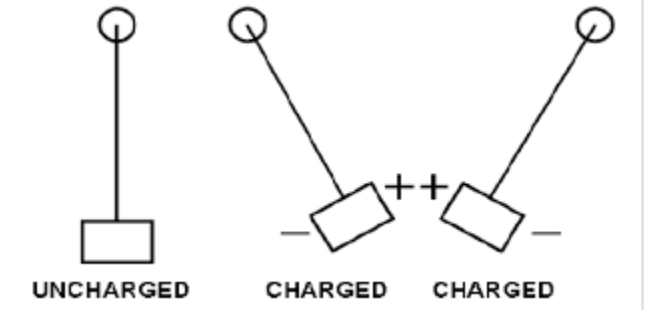


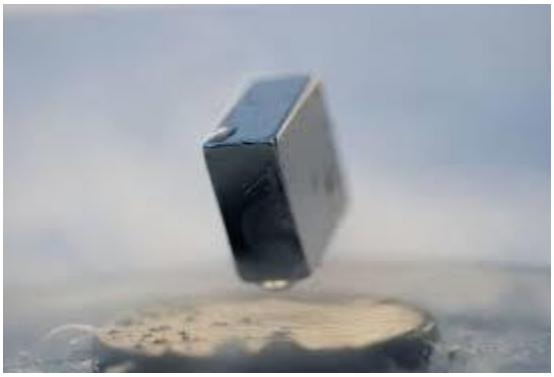

Warp Drive


Bill Beaty, 11/92
Thread
5 Copper pipe caps,
various sizes
Mercury
Pools
Solder
N
S
Neodymium
Magnet
2-1/2"
Micro N-Machine, Shorted Load Torque Experiment

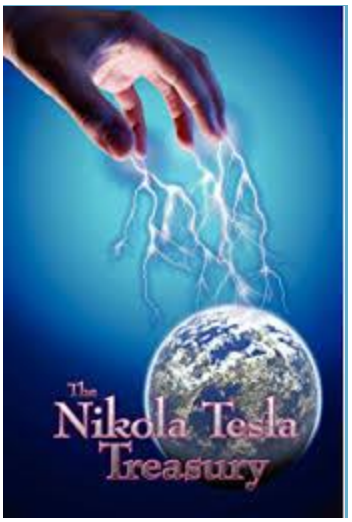




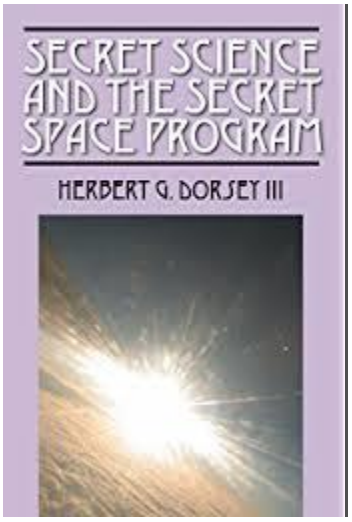

UNCHARGED
CHARGED
CHARGED

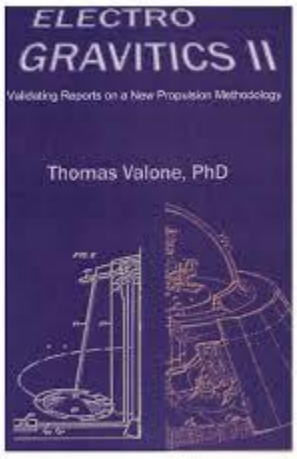


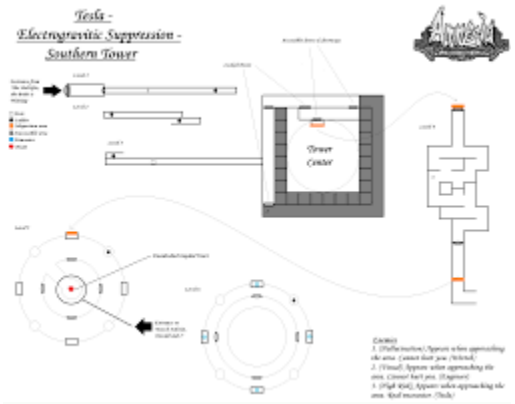

BIEFELD BROWN EFFECT PROPULSION 3b


The
Nikola Tesla
Treasury




SECRET SCIENCE
AND THE SECRET
SPACE PROGRAM
HERBERT G. DORSEY III


ELECTRO
GRAVITICS II
Validating Reports on a New Propulsion Methodology
Thomas Valone, PhD

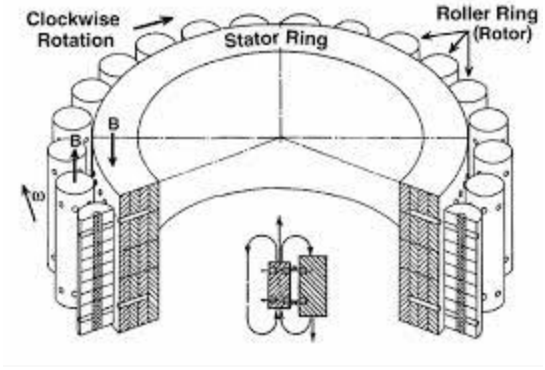

Tesla -
Electrogravitic Suppression -
Southern Tower
Tower
Center


BAM

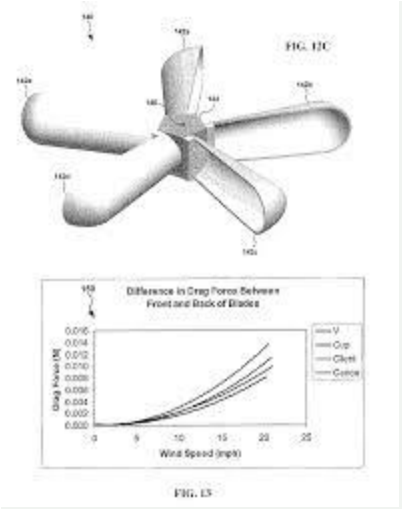
$$T_{\mu\nu} = -2\frac{1}{\sqrt{-g}}\frac{\delta\left(\sqrt{-g}\mathcal{L}_{\mathrm{M}}\right)}{\delta g^{\mu\nu}}$$
$$= -2\frac{\delta\mathcal{L}_{\mathrm{M}}}{\delta g^{\mu\nu}} + g_{\mu\nu}\mathcal{L}_{\mathrm{M}}.$$



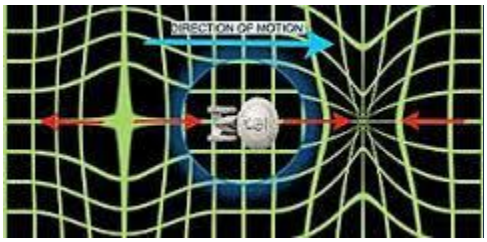






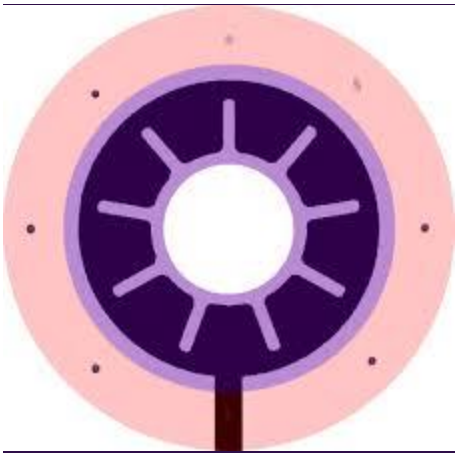




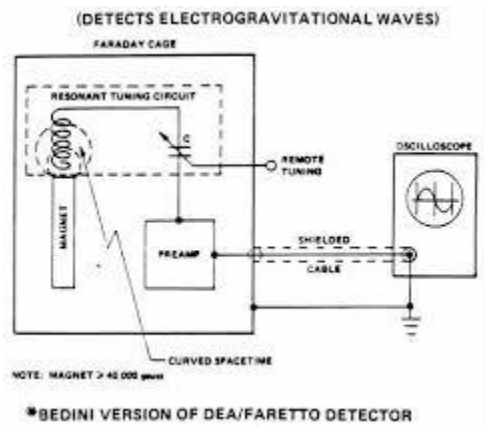


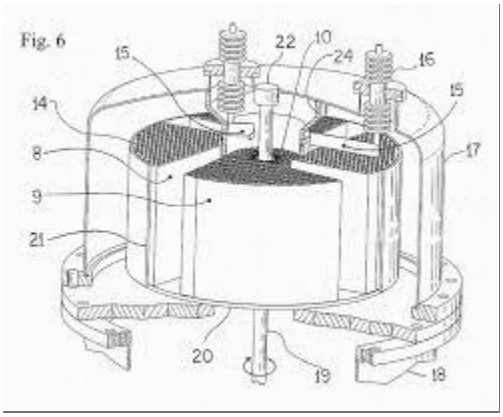




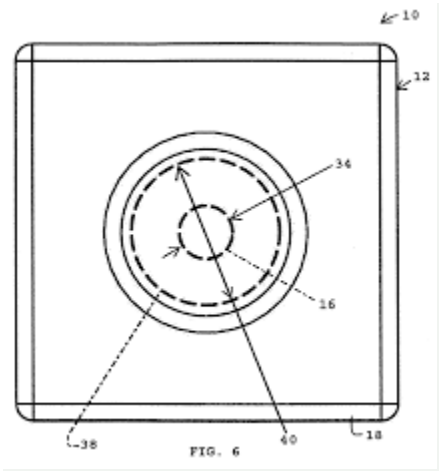



Did Tesla Discover
the Secrets of Antigravity?

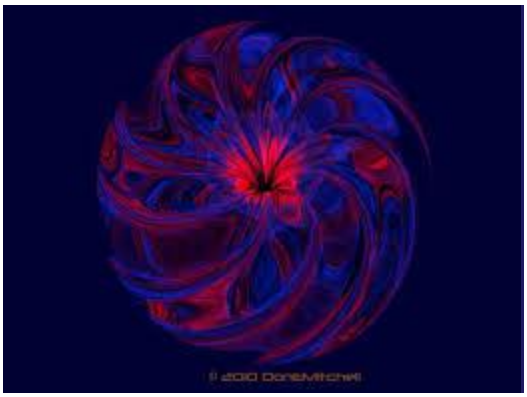

(DETECTS ELECTROGRAVITATIONAL WAVES)
FARADAY CAGE
RESONANT TUNING CIRCUIT
C
REMOTE TUNING
OSCILLOSCOPE
MAGNET
PREAMP
SHIELDED CABLE
CURVED SPACETIME
NOTE: MAGNET > 40,000 gauss
*BEDINI VERSION OF DEA/FARETTO DETECTOR


Fig. 6
15
22
10
24
16
14
8
9
21
20
19
18
17




10
12
34
16
38
40
18
FIG. 6

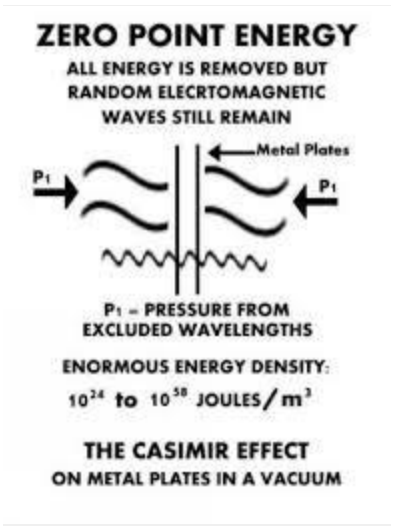



© 2010 Donevitch®

$$g_{\mu\nu} = \begin{pmatrix} 1-\frac{\Lambda r^2}{3} & 0 & 0 & 0 \\ 0 & -\frac{1}{1-\frac{\Lambda r^2}{3}} & 0 & 0 \\ 0 & 0 & -r^2 & 0 \\ 0 & 0 & 0 & -r^2\sin\theta \end{pmatrix},$$







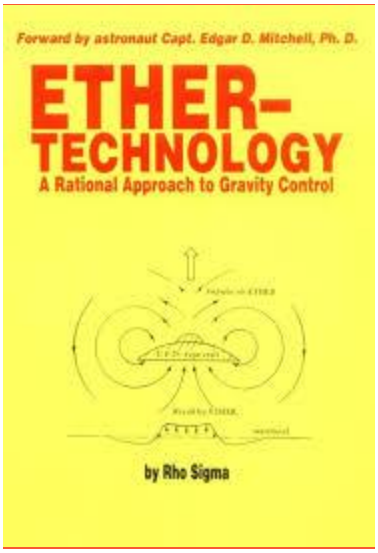


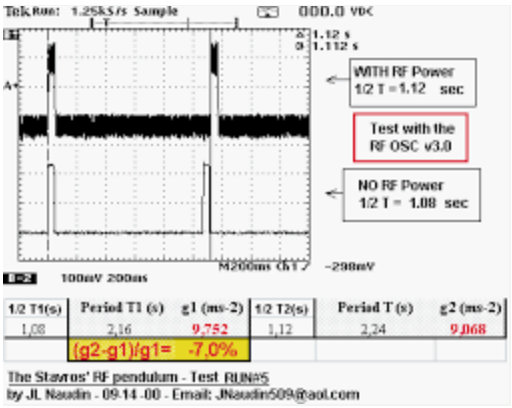
$$\mathcal{L}_{\mathrm{M}} = \mathcal{L}_{\rho} + \mathcal{L}_{em} = -\rho c^2 - \frac{\alpha_g c^2}{4\mu_0} F_{\mu\nu}F^{\mu\nu},$$

$$T_{\mu\nu} = g_{\mu\nu}\mathcal{L}_{\mathrm{M}},$$

$$T_{\mu\nu} = -g_{\mu\nu}\rho c^2 - g_{\mu\nu}\frac{\alpha_g c^2}{2\mu_0}\left(B^2 - \frac{E^2}{c^2}\right).$$

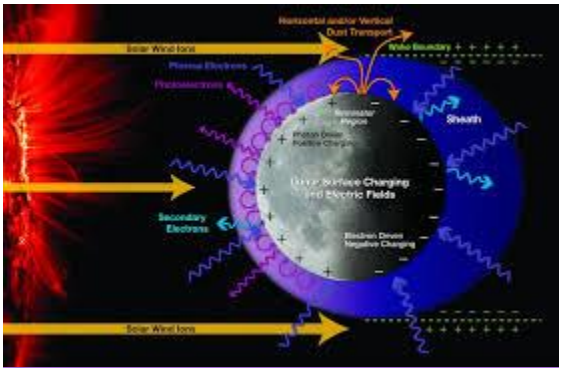


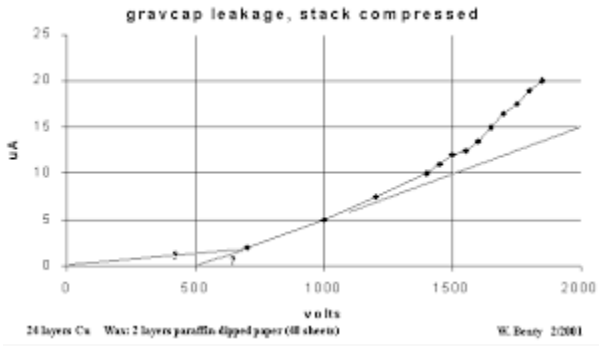



WITH RF Power
1/2 T = 1.12 sec
Test with the
RF OSC v3.0
NO RF Power
1/2 T = 1.08 sec
1/2 T1(s) | Period T1 (s) | g1 (ms-2) | 1/2 T2(s) | Period T (s) | g2 (ms-2)
1,08 | 2,16 | 9,752 | 1,12 | 2,24 | 9,068
(g2-g1)/g1= -7.0%
The Stavros' RF pendulum - Test RUN#5
by JL Naudin - 09.14.00 - Email: JNaudin509@aol.com



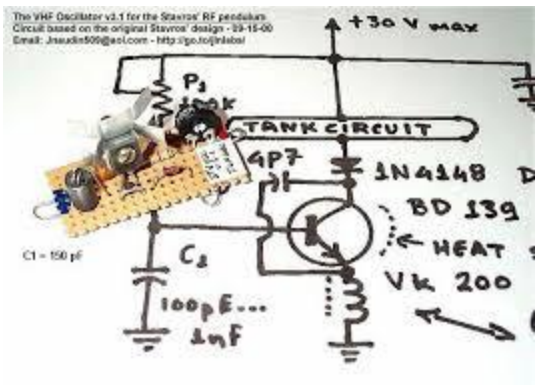

TRUXA


Solar Wind Ions
Sheath
Secondary Electrons


gravcap leakage, stack compressed
uA
volts
24 layers Cu Was: 2 layers paraffin dipped paper (48 sheets)
W. Beaty 2/2001




UCHA
03.17


+30 V max
TANK CIRCUIT
4P7
1N4148
BD 139
HEAT
Vk 200
C1 = 150 pF
100pF...
1nF






14
Valentine's Day
AT THE VENUE

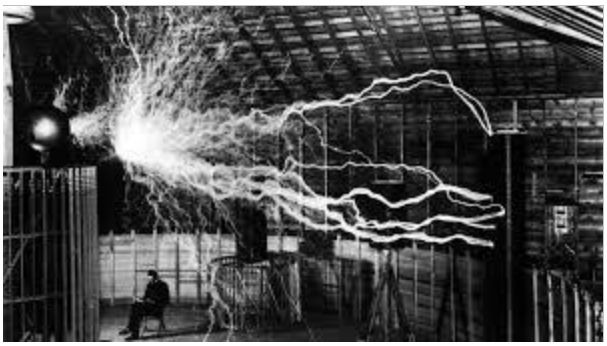


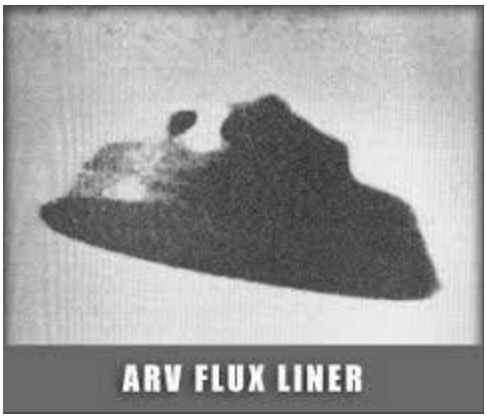


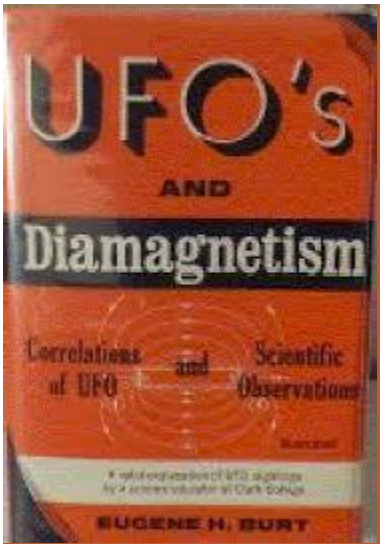

HEY DUCK
W·I·L·L·I·AM

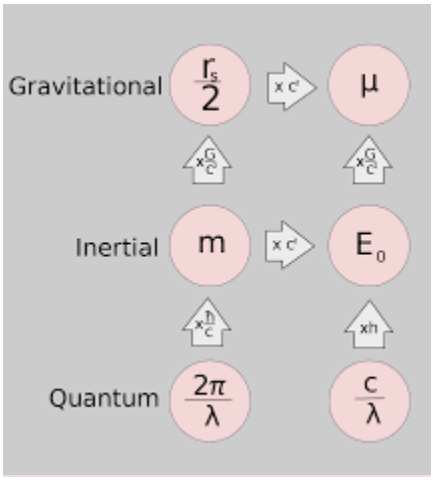


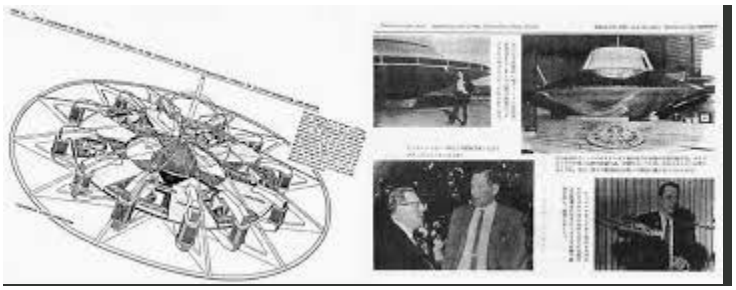

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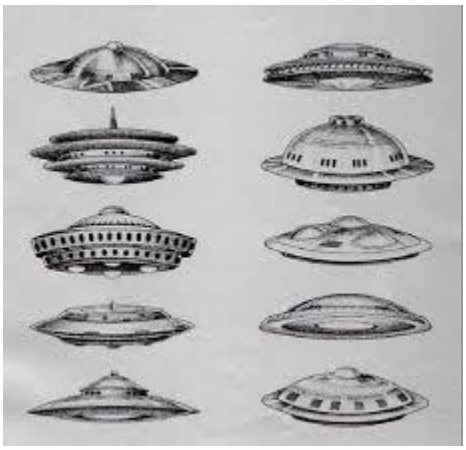



ARV FLUX LINER


UFO's
AND
Diamagnetism
Correlations of UFO and Scientific Observations
EUGENE H. BURT

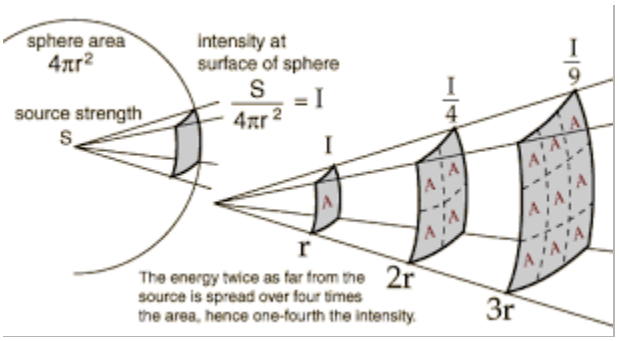

Gravitational
$\frac{r_s}{2}$
x c²
μ
x G/c²
x G/c²
Inertial
m
x c²
E_0
x h/c
x h
Quantum
$\frac{2\pi}{\lambda}$
$\frac{c}{\lambda}$

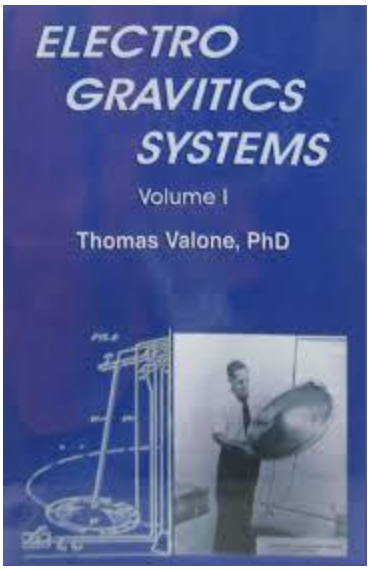


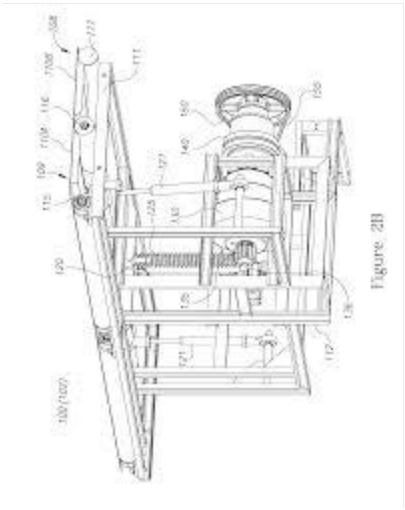



Live_ISS_Stream
USTREAM
LIVE


ESPERO QUE A VÓS TAMBIÉN TE VALOMEN ANTES DE QUE SALGAS DE CIRCULACIÓN...


sphere area
$4\pi r^2$
source strength
S
intensity at surface of sphere
$\frac{S}{4\pi r^2} = I$
I
r
$\frac{I}{4}$
2r
$\frac{I}{9}$
3r
The energy twice as far from the source is spread over four times the area, hence one-fourth the intensity.



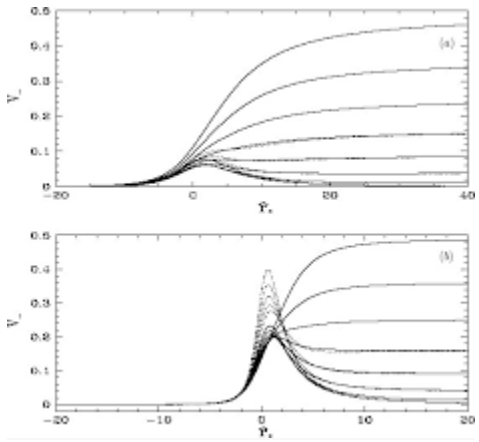


Engineer John Searl discovered that inertial mass could be canceled in such an approach to field propulsion, thus eliminating the presumed "light speed barrier"



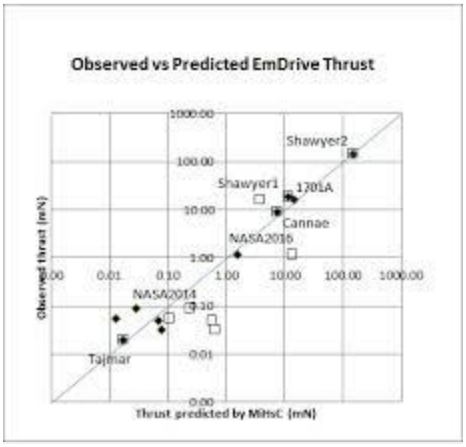






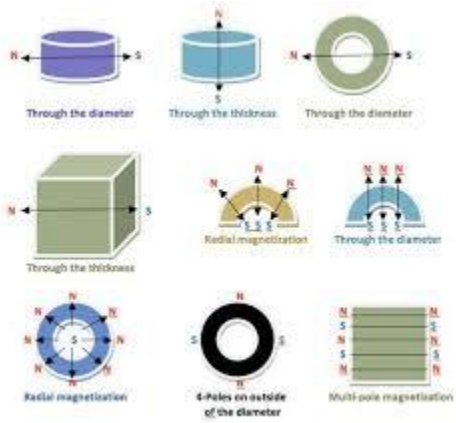


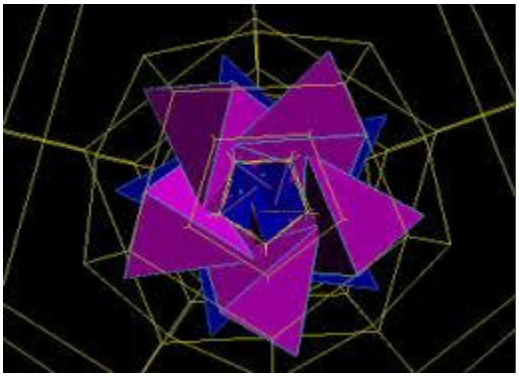












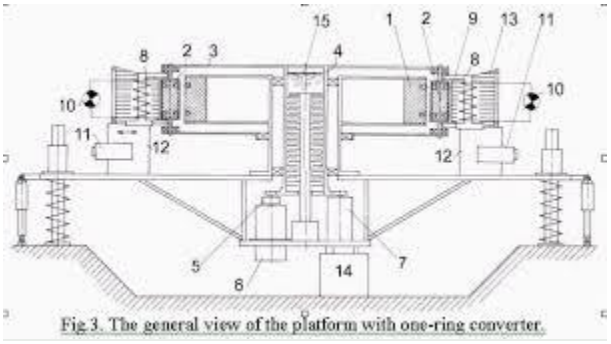
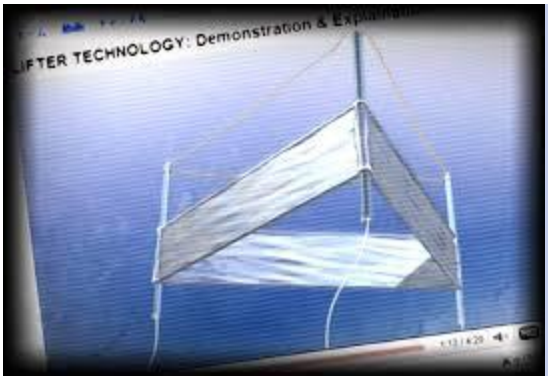
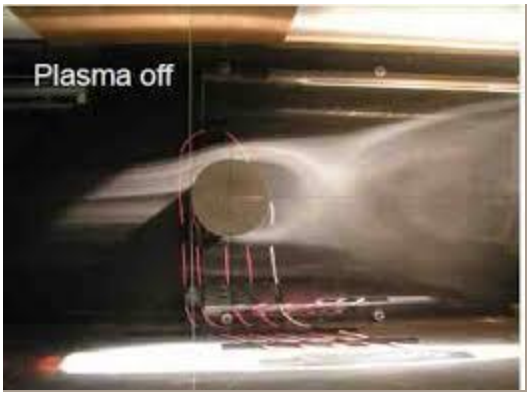


Fig.3. The general view of the platform with one-ring converter.

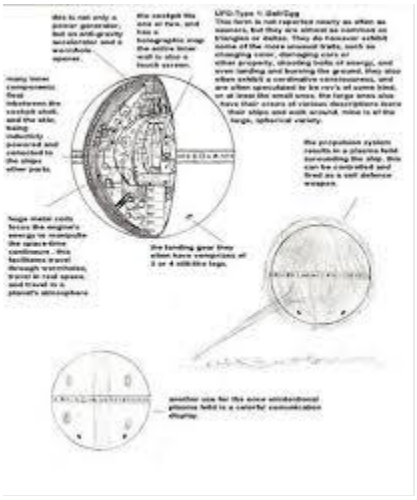





FTER TECHNOLOGY: Demonstration & Exp

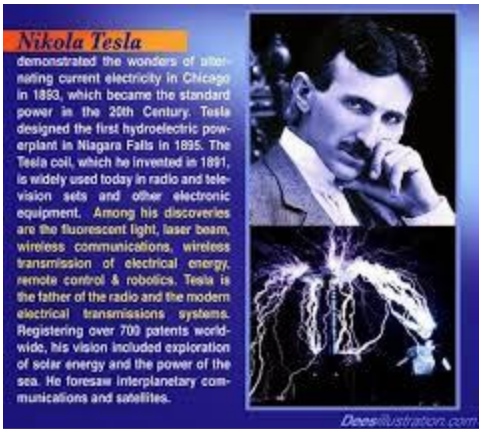

Plasma off






Ancien
CODE

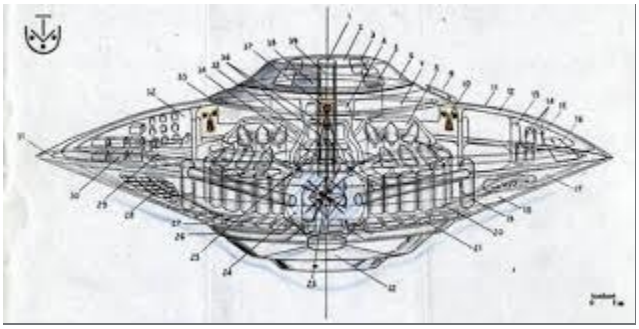

ORDER OF THE MUFFIN


Nikola Tesla
demonstrated the wonders of alternating current electricity in Chicago in 1893, which became the standard power in the 20th Century. Tesla designed the first hydroelectric powerplant in Niagara Falls in 1895. The Tesla coil, which he invented in 1891, is widely used today in radio and television sets and other electronic equipment. Among his discoveries are the fluorescent light, laser beam, wireless communications, wireless transmission of electrical energy, remote control & robotics. Tesla is the father of the radio and the modern electrical transmissions systems. Registering over 700 patents worldwide, his vision included exploration of solar energy and the power of the sea. He foresaw interplanetary communications and satellites.





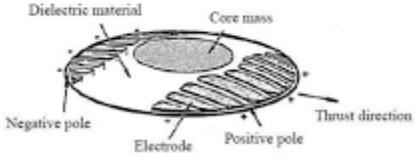




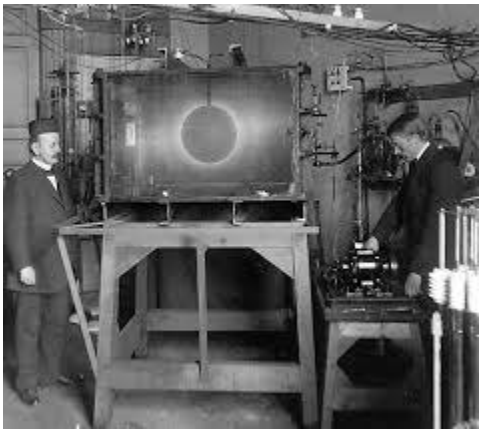
Another way to say this is that the positive charge emitted a gravitation field, while the negative charge emitted an antigravitational field

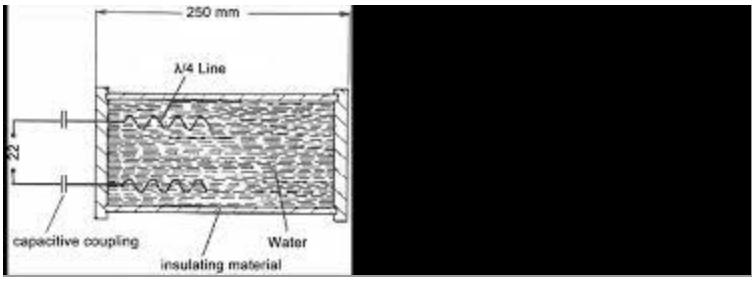
Explanation of dynamical Biefeld-Brown Effect from the standpoint of ZPF field

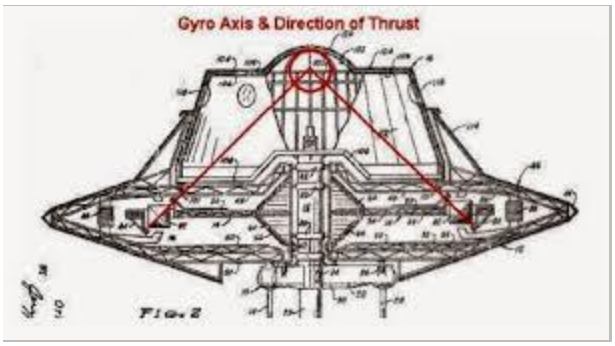
Takaaki Musha



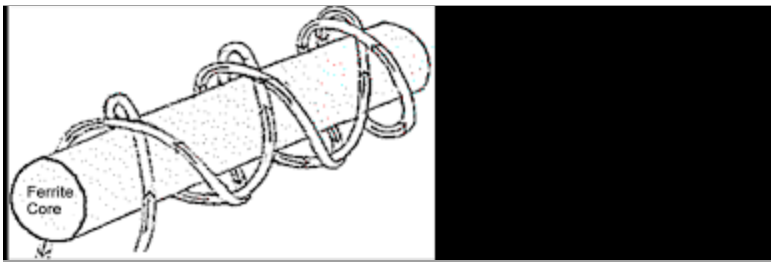


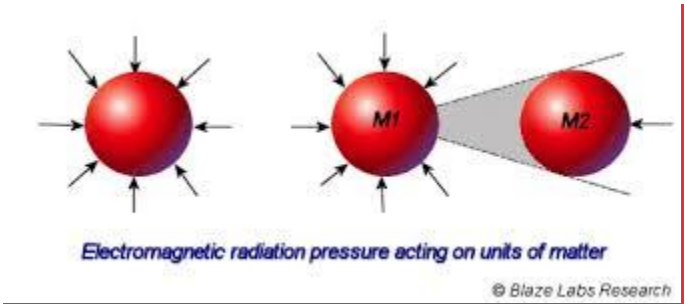


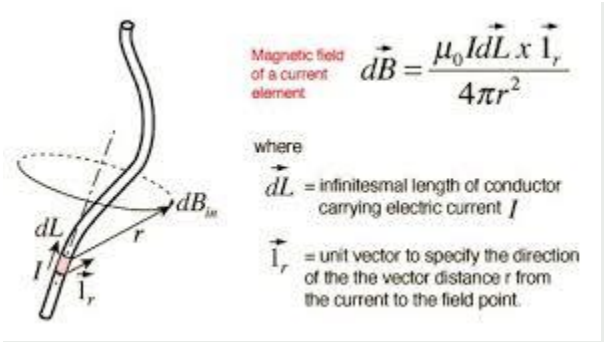












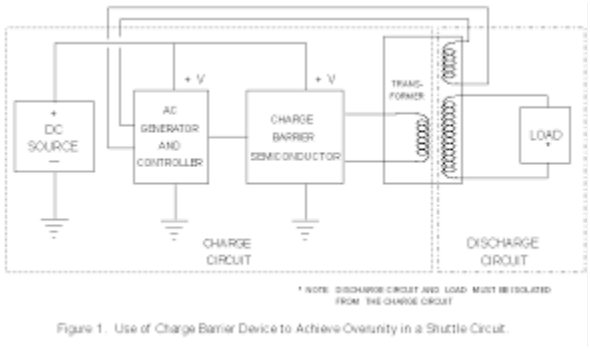
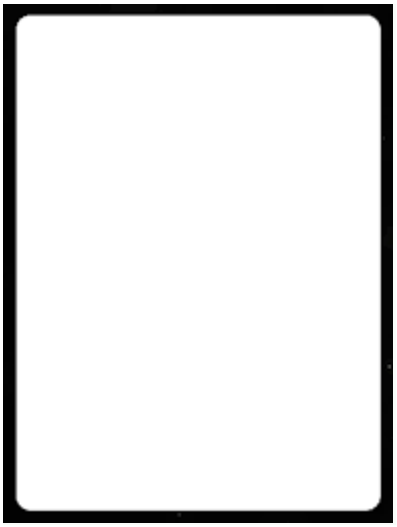
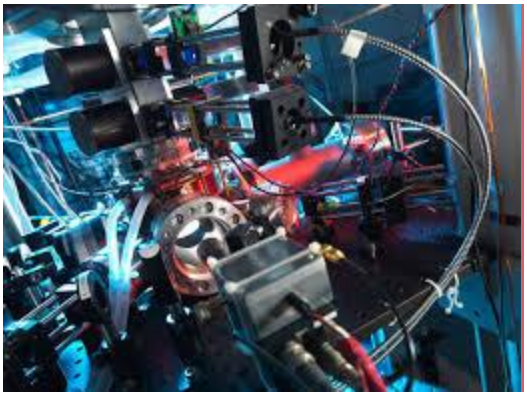
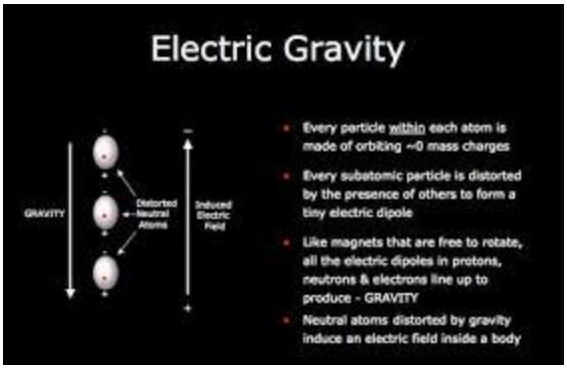


Figure 1. Use of Charge Barrier Device to Achieve Overunity in a Shuttle Circuit









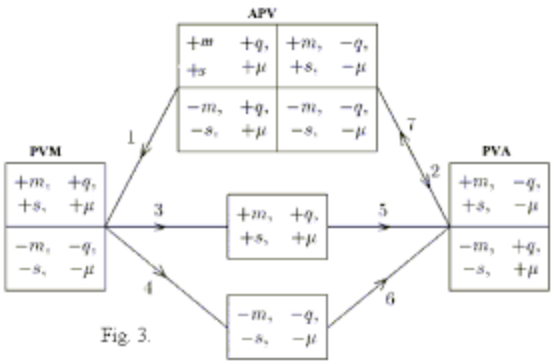
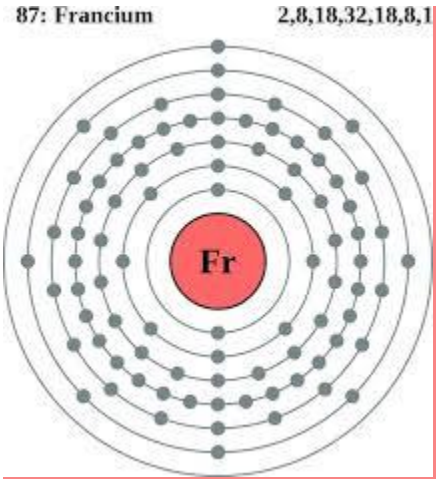
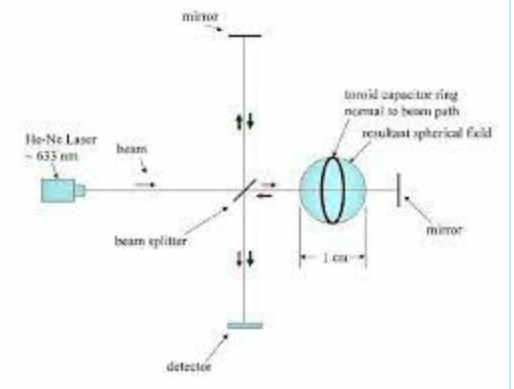


Fig. 3.




New Energy Technologies

Magazine



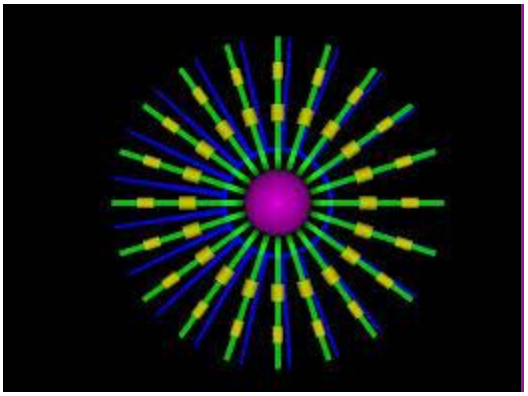




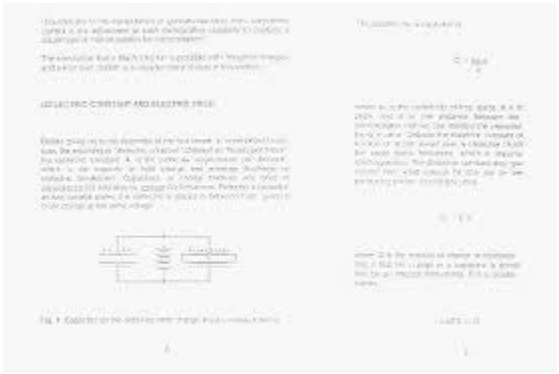




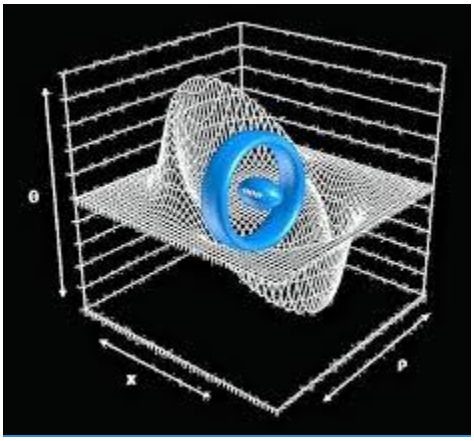

10 g of payload

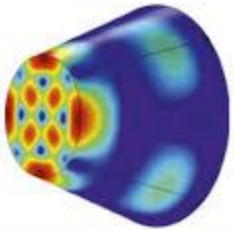


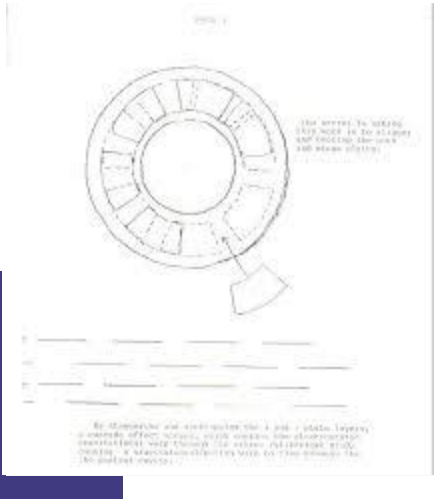


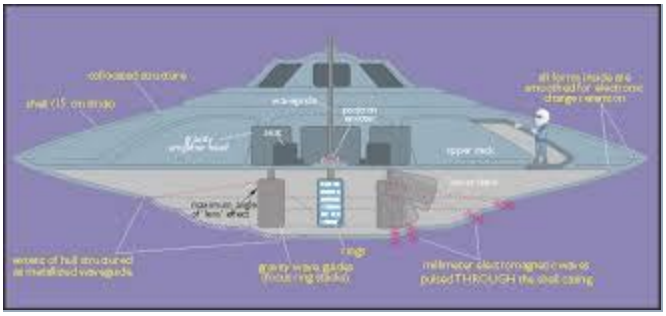





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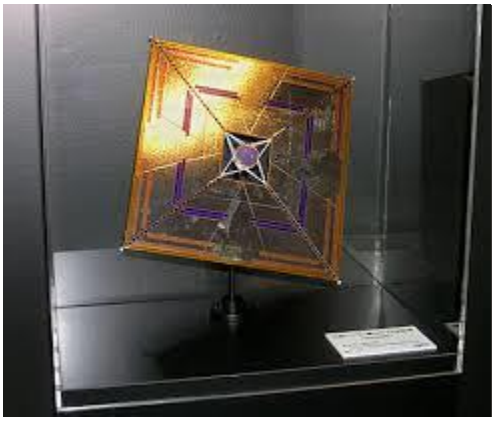








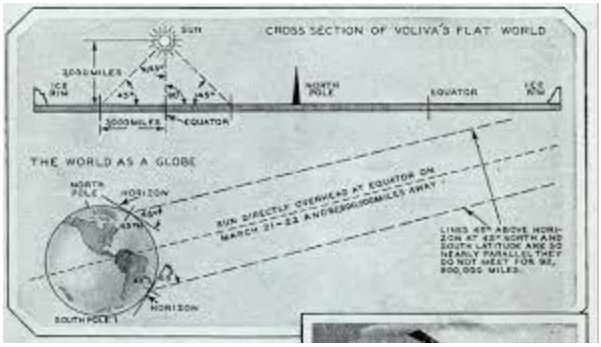


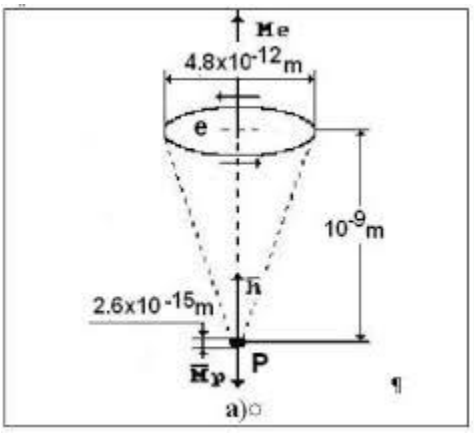


We will soon be able to control all of the natural forces. An age of abundance is near.

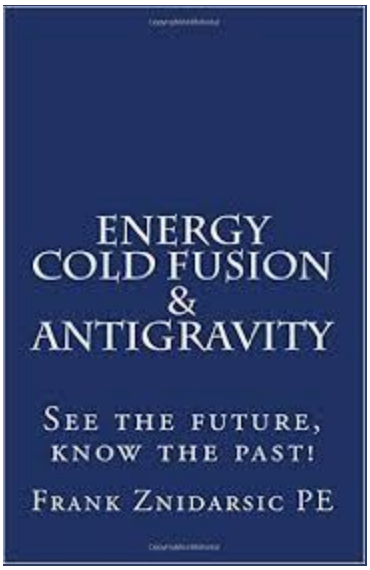
Frank Znidarsic is a Professional Registered Electrical Engineer. He spent a life time working in energy related industries. He possesses, from this background of experience, the technologies and the problems associated with fossil fuels and conventional nuclear power. The environmental impact and finite nature, of these energy sources, are reviewed in detail. Znidarsic has traveled to many laboratories where he has witnessed cold fusion and anti-gravitational experiments. He reveals what he discovered during these visits. After many years of reviewing these results, a Newtonian description of the quantum condition was produced. This Newtonian framework was used to describe many known phenomena. The energy of a photon and the energy levels of the atoms were developed as effects of the approach. The techniques were then used to describe the science of Low Level Nuclear Reactions and Anti-Gravity. The mathematics was confined to the final chapters of the text, however, the significance of the discoveries is clearly explained within a historical context. The text was written in such a manner that it will be interesting and educational for both the novice and the professional.

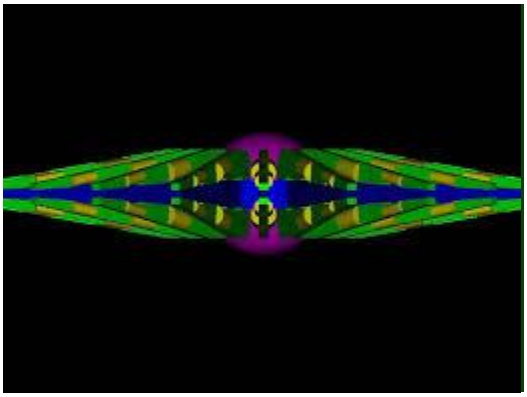




















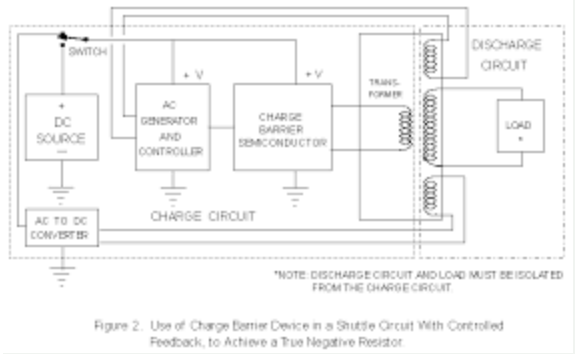
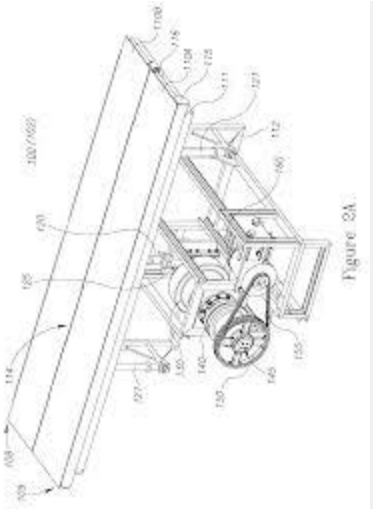


Figure 2. Use of Charge Barrier Device in a Shuttle Circuit With Controlled Feedback, to Achieve a True Negative Resistor




Figure 2A













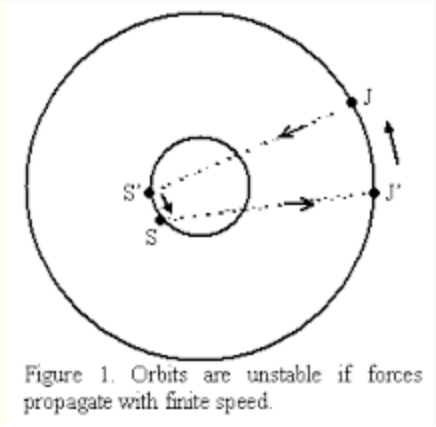
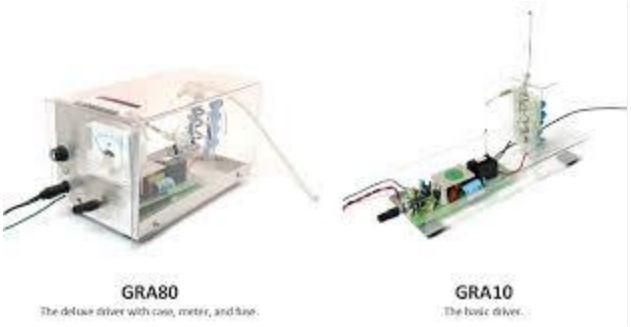
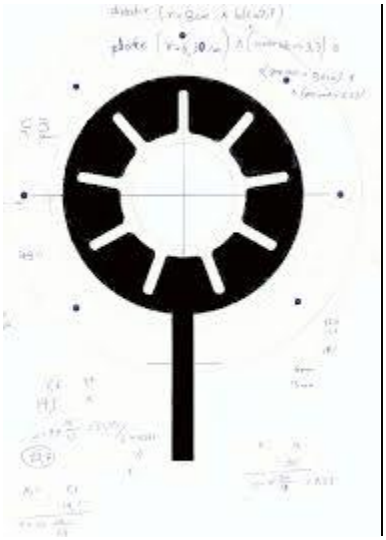
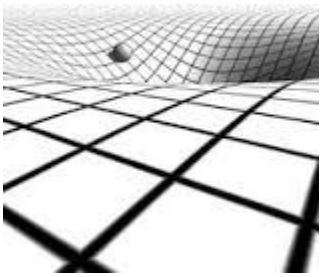


Figure 1. Orbits are unstable if forces propagate with finite speed.





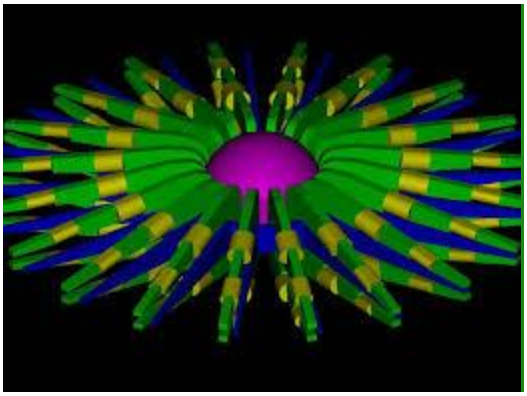


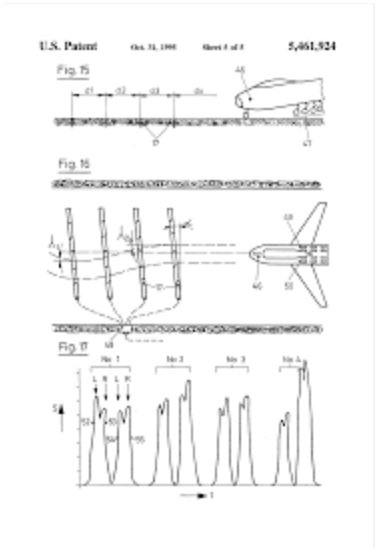








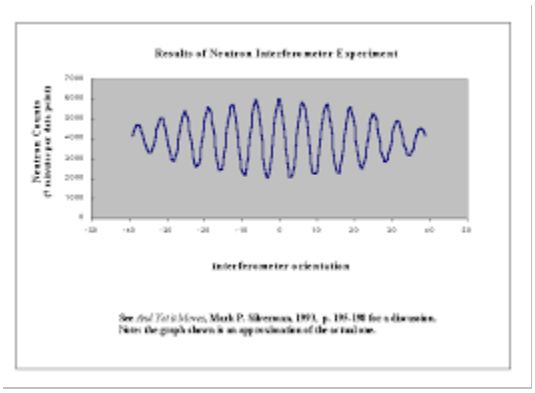


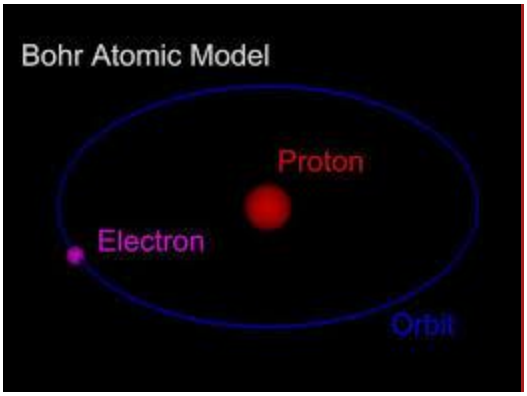

U.S. Patent
5,461,924
Fig. 15
Fig. 16
Fig. 17

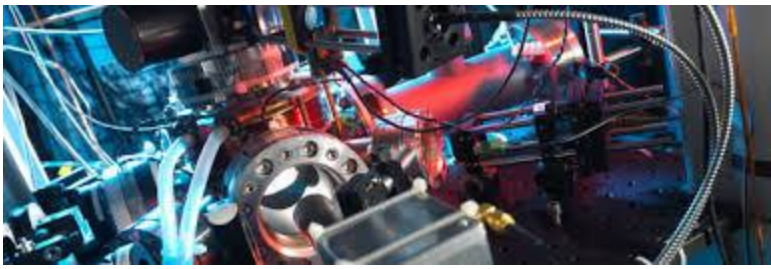


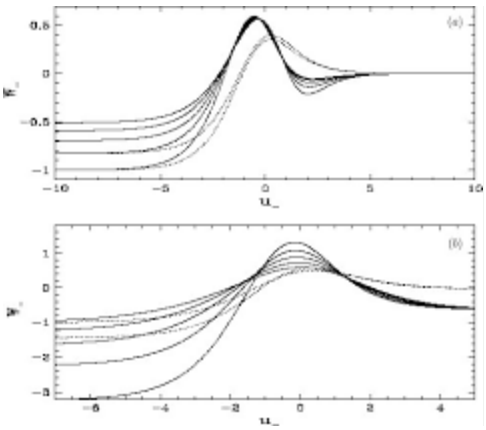





Results of Neutron Interferometer Experiment
Neutron Counts
Interferometer orientation

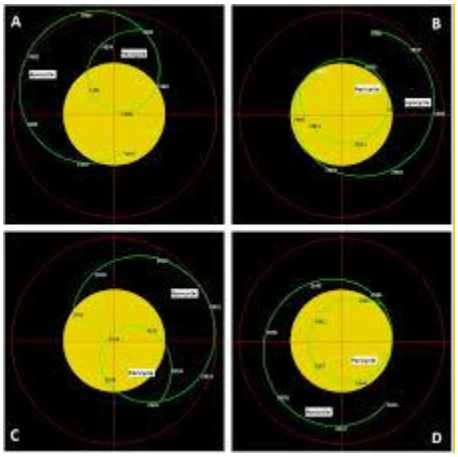

Bohr Atomic Model
Proton
Electron
Orbit



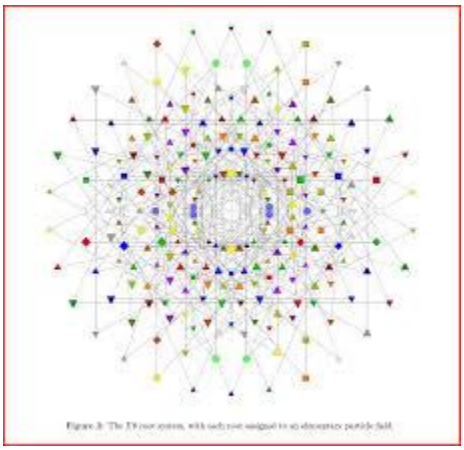


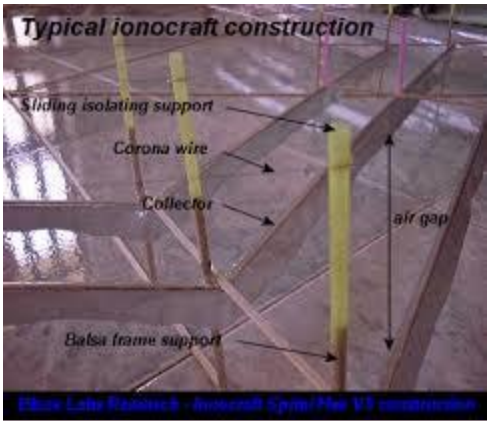


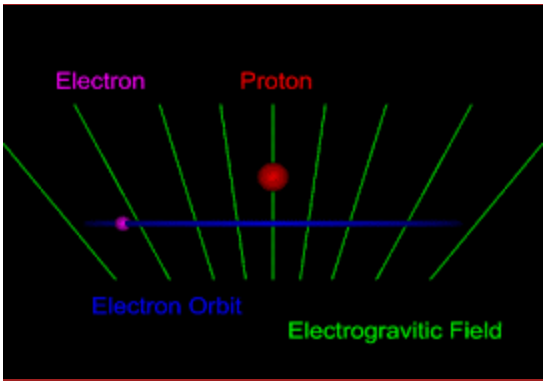

FIELD EFFECT PROPULSION AND ANTIGRAVITY RESEARCHES
JLN Labs 200

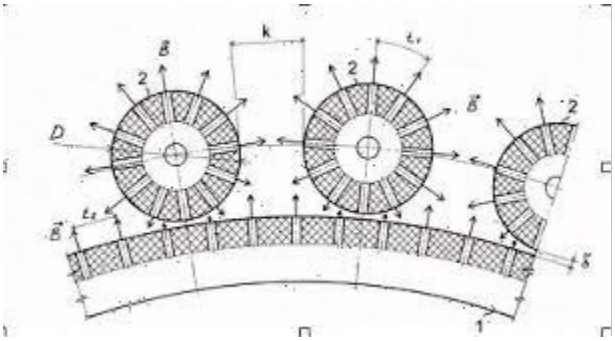

A
B
C
D

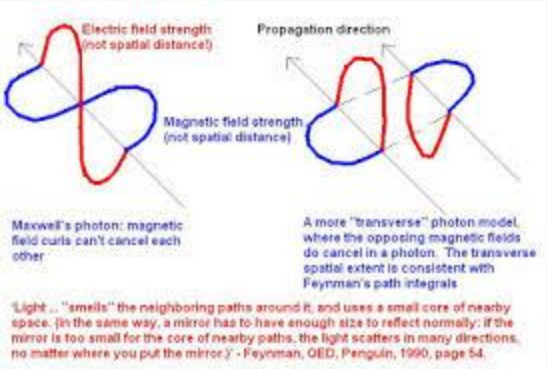

FULL VACUUM at
1.72x10^-6 Torr
C1
SP




Typical ionocraft construction
Sliding isolating support
Corona wire
Collector
air gap
Balsa frame support


Electron
Proton
Electron Orbit
Electrogravitic Field





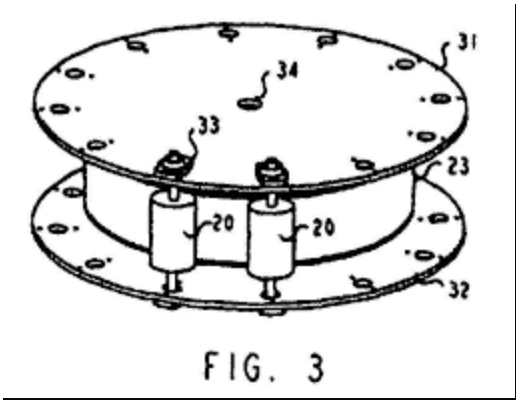
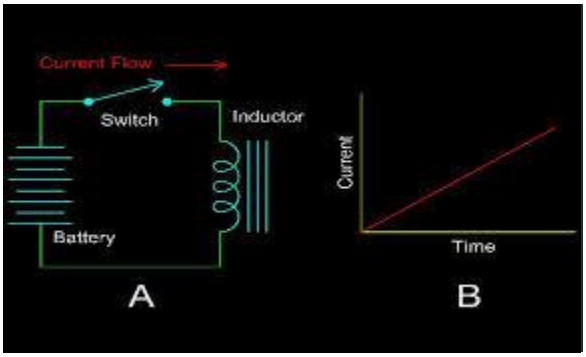


FIG. 3



We know that $R \to 0$, and $\rho = 0$, so:

$$F_{0\gamma} = Q\left[\frac{1}{4}\left(K_{0\lambda}q^{\lambda}q_{\gamma}^{*} + \ldots\right)\right],$$

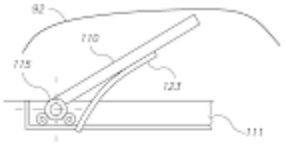


FIG.7A

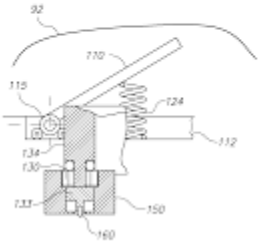
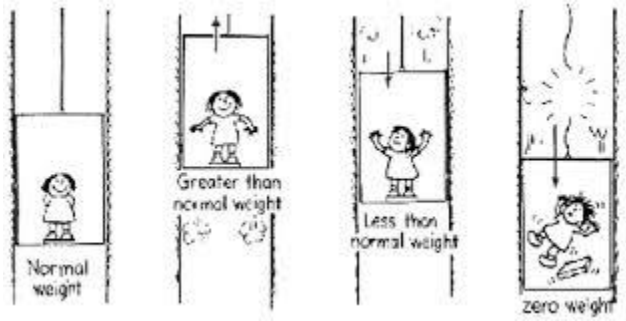
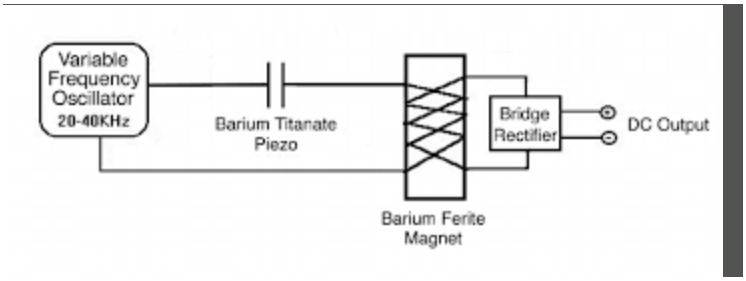
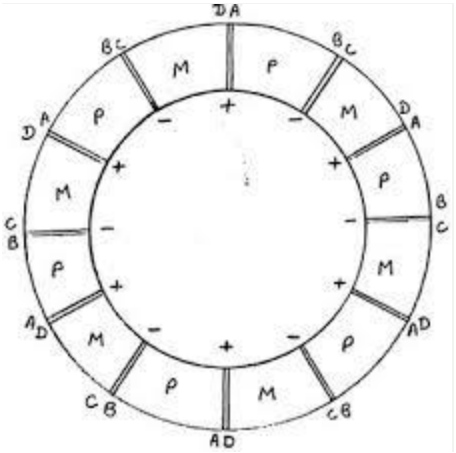


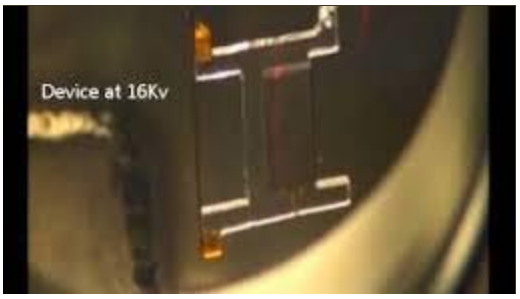
FIG.7B

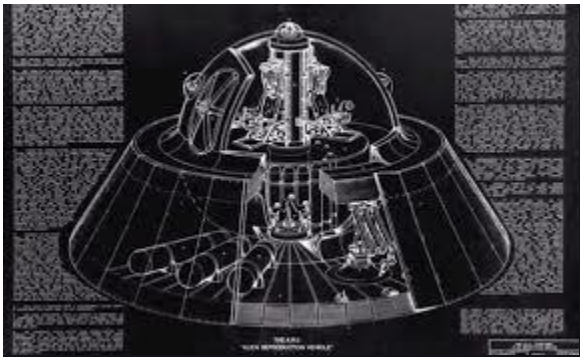


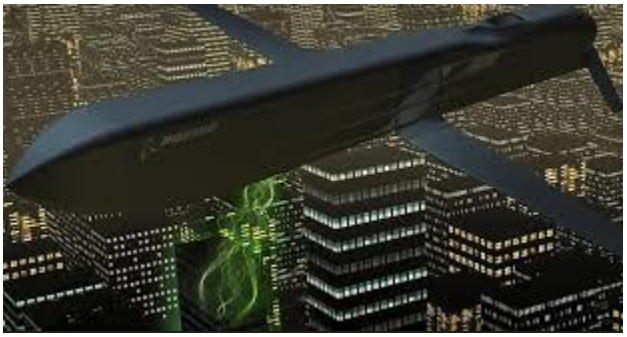








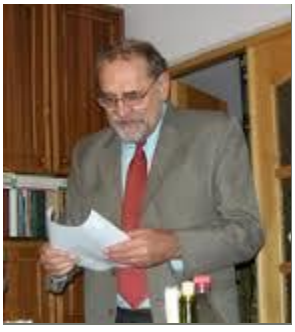




SUPERS













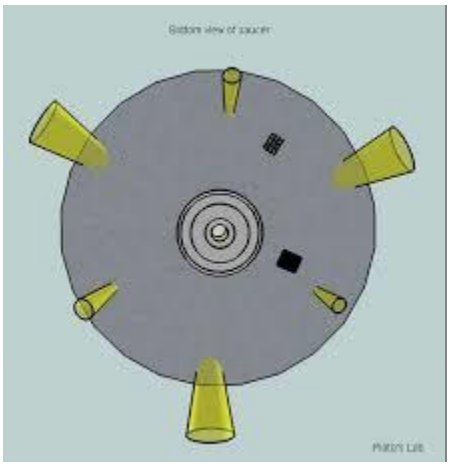
It is these "perturbations" that create the sloshing and dynamism of the Zero Point Field or "transmuting ether" (to use LaViolette's term)





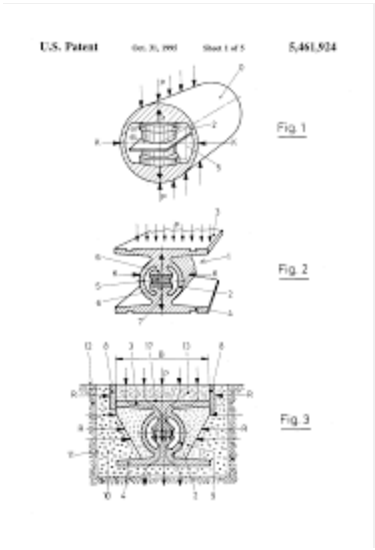


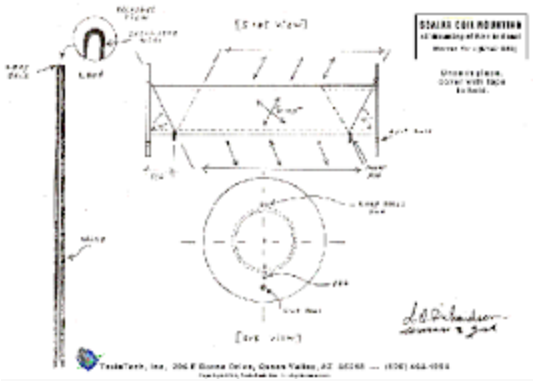


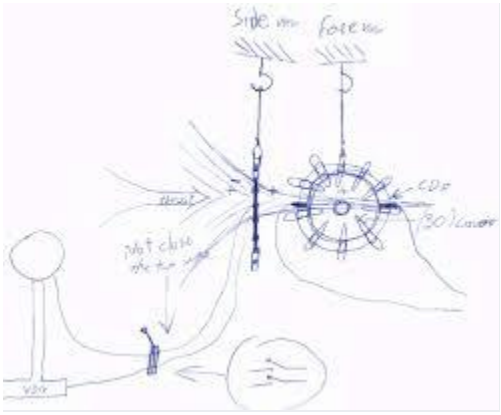
















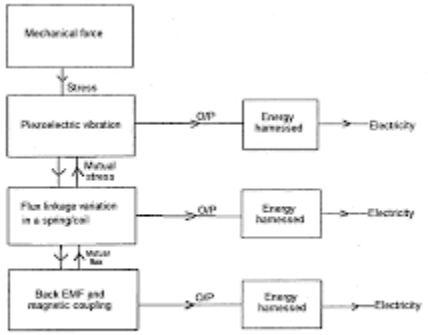
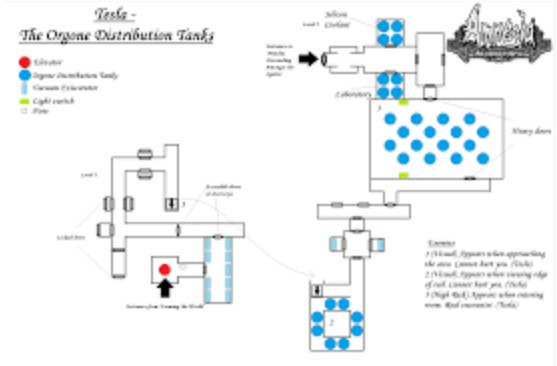
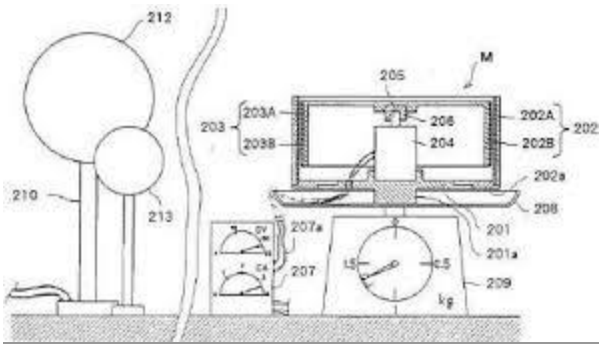


Fig-6: Energy harnessing flow in energy harvester



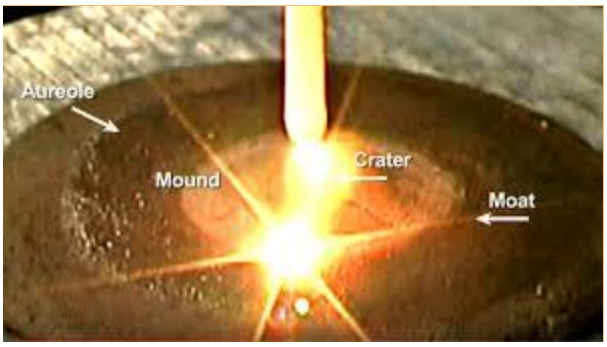


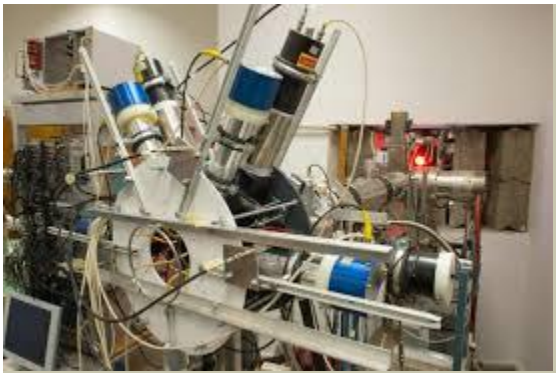


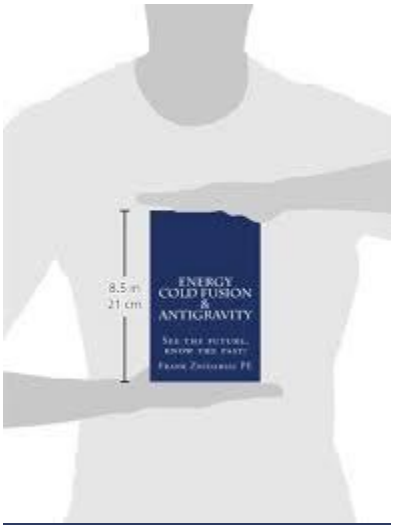












TEST NO.	WIRE LENGTH (in.)	WIRE SPACING (in.)	CYLINDER WEIGHT (lbs.)	VOLTAGE Pos.(kv)	VOLTAGE Neg.(kv)	MOTION Pos.(cm)	MOTION NEG.(cm)
1	66	8½	5	30	30	.23	.23
2	66	6-1/8	5	30	30(less?)	.66	.65
3	66	6-1/8	5	30	30	.76	.99
4	66	6-1/8	5	30	30	.83	.93
5	66	6-1/8	5	15 (erratic)	15	.15	.16
6	66	6-5/8	5	30	30	.01 toward pos. (weights linked)	
7	66	6-5/8	5	DV=54		.04 toward pos. (weights linked)	
8	66	6-5/8	5	DV=54 (reversed)		.02 toward pos. (weights linked)	
9	60	5-5/8	30	10	40	.00	.2
10	60	5-5/8	30	0	42	.04	.06
11	60	5-5/8	30	0	42	.04	.06
12	66	6½	30	0	42	.00 (weights linked)	.00

Biefeld–Brown Effect: Misinterpretation of Corona Wind Phenomena

AIAA Journal > 1 February 2004, vol. 42, no. 2, pp. 315-318(4)

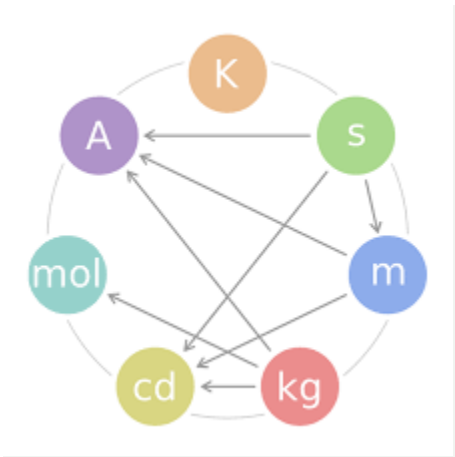
Tajmar M.

Abstract:
With its theoretical origins dating back to the early 1920s, the Biefeld-Brown effect was believed to be responsible for the generation of thrust in capacitor configurations exposed to high voltage. This thrust was claimed to be unrelated to corona wind phenomena and to exist in vacuum. These claims, although only published in patents, survived until recent publications for very advanced propulsion concepts. Brown's and similar work, as well as credible theoretical and experimental studies relating to the Biefeld-Brown effect, are reviewed. Moreover, an experiment was carried out to investigate any thrust not related to corona discharges. No thrust was detected within the accuracy of the experimental setup. This puts new boundaries on any anomalous Biefeld-Brown force. Measurements indicate that such anomalous force must be at least five orders of magnitude below corona wind phenomena and must have at least a two orders of magnitude higher power-to-thrust ratio compared to traditional electric propulsion thrusters. Hence, even if the effect exists, it would not be attractive for space propulsion. The obtained results suggest that corona wind effects were misinterpreted as a connection between gravity and electromagnetism.

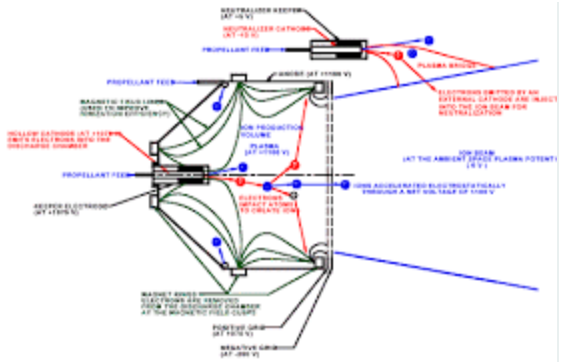
Document Type: Regular paper **ISSN:** 0001-1452

SICI (online): 0001-1452(20040201)42:2L.315;1-

Publisher: American Institute of Aeronautics and Astronautics

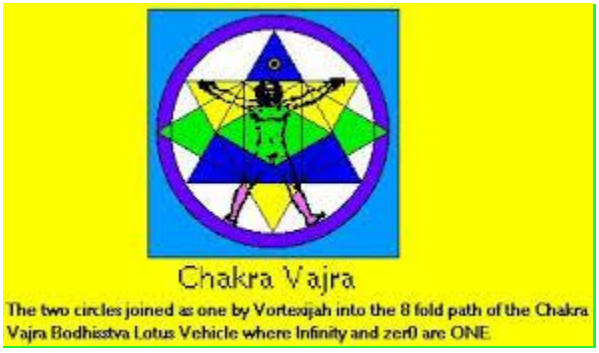






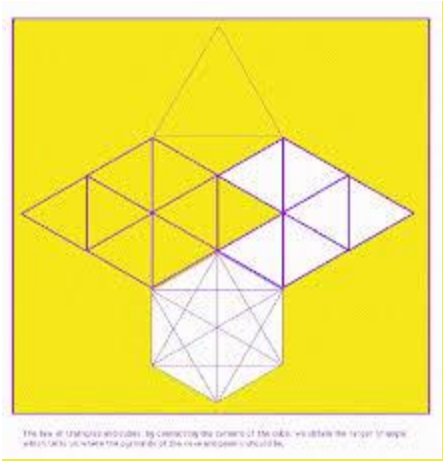


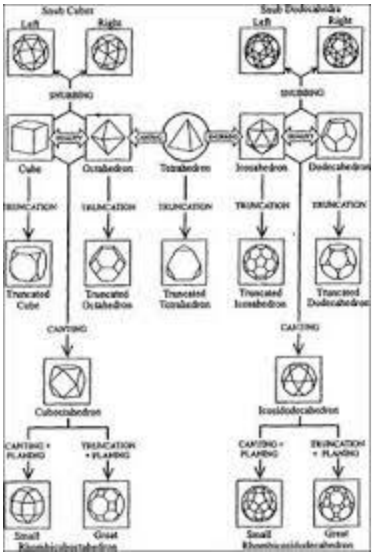










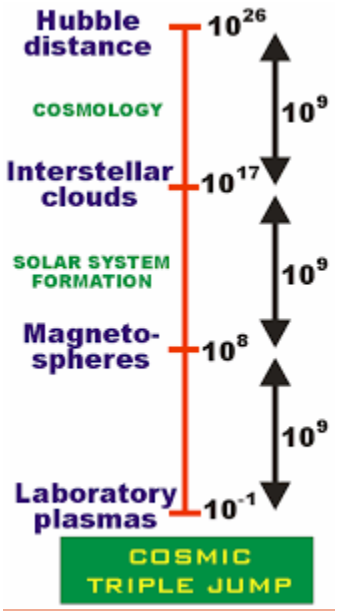


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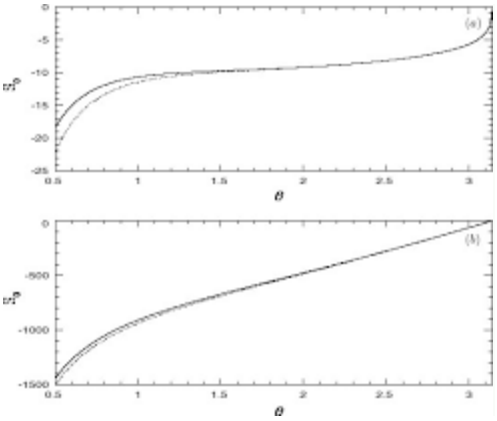


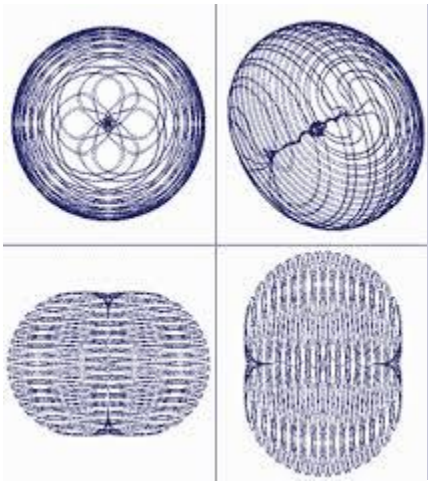


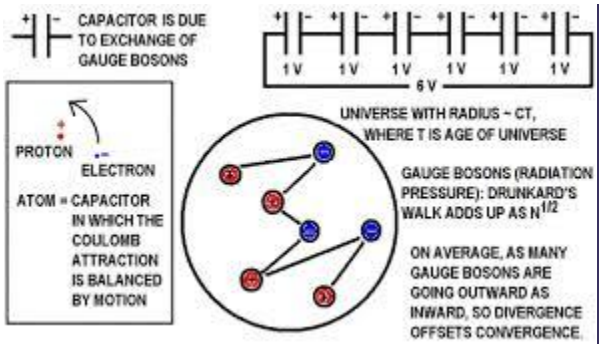


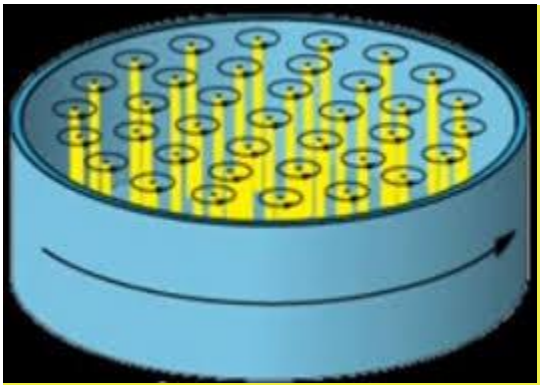






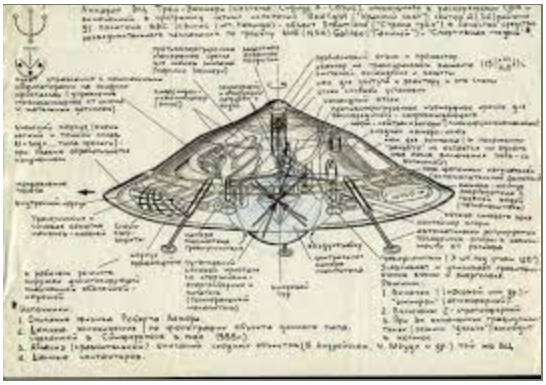






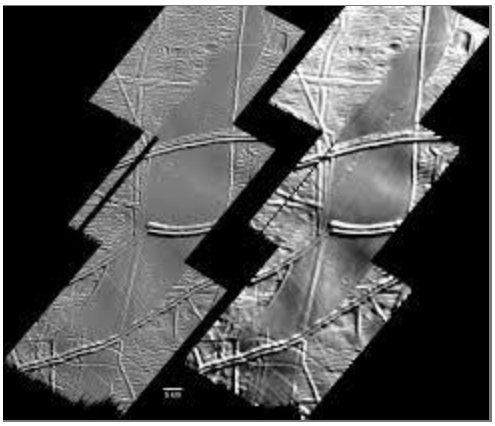
N° 16,277A A.D. 1896

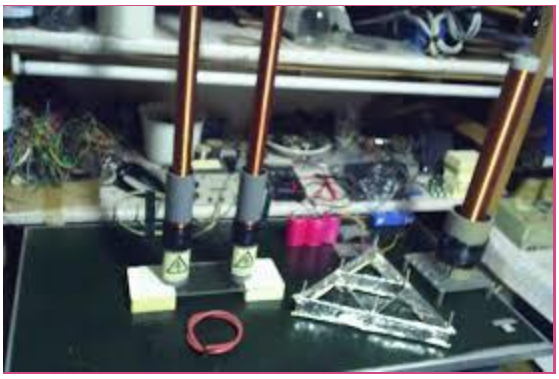
The Utilization of Hydrogen Gas for the Obtainment of Light, Heat, and Power.



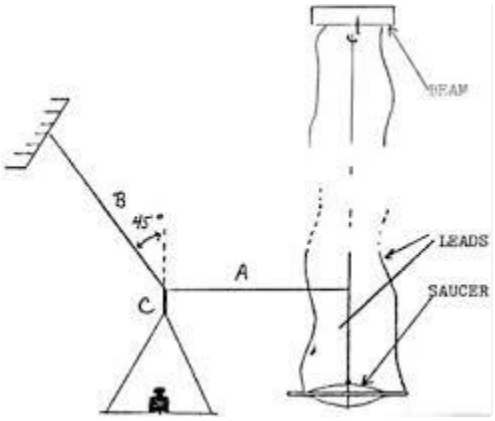




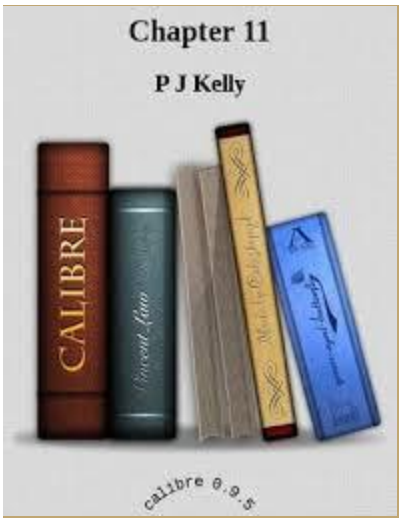


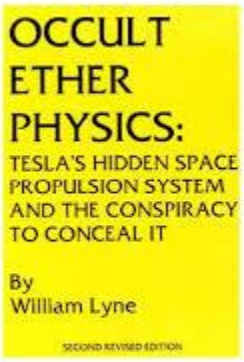


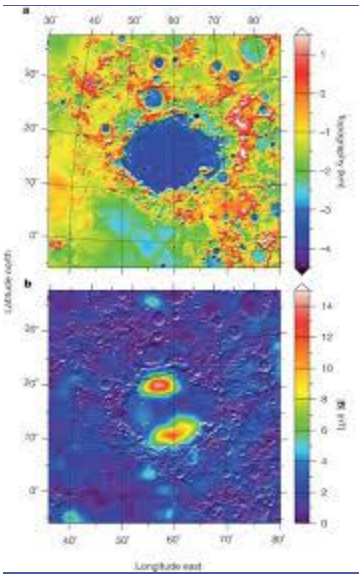




$$
\begin{aligned}
\delta\widehat{\mathcal{L}}_{\text{matt}} = {} & f^{(a)} X^{\mu}_{(a)} \frac{\partial \widehat{\mathcal{L}}_{\text{matt}}}{\partial x^{\mu}} + f^{(a)} X^{\alpha}_{(a)\beta} \varphi^{\beta} \frac{\partial \widehat{\mathcal{L}}_{\text{matt}}}{\partial \varphi^{\alpha}} \\
& + \left(\partial_{\mu} f^{(a)} X^{\alpha}_{(a)\beta} \varphi^{\beta} - \varphi^{\alpha}_{,\nu} \left(\partial_{\mu} f^{(a)} X^{\nu}_{(a)} + f^{(a)} \partial_{\mu} X^{\nu}_{(a)} \right) + f^{(a)} X^{\alpha}_{(a)\beta} \varphi^{\beta}_{,\mu} \right) \frac{\partial \widehat{\mathcal{L}}_{\text{matt}}}{\partial \varphi^{\alpha}_{,\mu}} \\
& + \left(f^{(b)} C^{a}_{bc} A^{(c)}_{\mu} + k^{\nu}_{\mu} \partial_{\nu} f^{(a)} - f^{(b)} A^{(a)}_{\sigma} \partial_{\mu} X^{\sigma}_{(b)} \right) \frac{\partial \widehat{\mathcal{L}}_{\text{matt}}}{\partial A^{(a)}_{\mu}} \\
& + \left(X^{\nu}_{(a)} k^{\sigma}_{\mu} \partial_{\sigma} f^{(a)} + f^{(a)} \left(k^{\sigma}_{\mu} \partial_{\sigma} X^{\nu}_{(a)} - k^{\nu}_{\sigma} \partial_{\mu} X^{\sigma}_{(a)} \right) \right) \frac{\partial \widehat{\mathcal{L}}_{\text{matt}}}{\partial k^{\nu}_{\mu}} .
\end{aligned}
$$







TEST FOR FLATNESS IN THE LOCAL SPACE ABOVE THE EARTH (GRAVITATION, pages 29-32)

Universal Gravitational Constant ---------- $G = 6.673 \times 10^{-8} \frac{\text{cm}^3}{\text{g s}^2}$

Mass of Earth's gravitational field ---------- $M = 5.98 \times 10^{27}$ g

Radius of the Earth ---------- $R_E = 6.37 \times 10^8$ cm

Vertical separation between two particles ---------- $S_E = 1 \times 10^5$ cm

Time of separation for light travel ---------- $T = 3$ sec

Where, $S_x = S_y = S_z$ define the x, y and z dimensions of a volume in space

$S_x = S_E$ $S_y = S_E$ $S_z = S_E$

Velocity of light: $c = 2.998 \times 10^{10} \frac{\text{cm}}{\text{sec}}$

Mean radius of the Earth, cm units: $R_E = 6.37 \times 10^8$ cm

Mass of the earth in **geometrized** units: $m_{GE} = \frac{GM}{c^2}$ $m_{GE} = 0.443$ cm

Relative acceleration in z-direction of two test particles initially at rest and separated by 1 cm vertically

$a_{RE} = \frac{-2 m_{GE}}{(S_E)^3}$ $a_{RE} = -34.333 \text{ cm}^{-2}$ z-tidal acceleration of gravitational field

Light distance traveled by the volume ($S_x \times S_y = S_E$) in space (**geometrized** distance in T seconds)

$s = T \cdot c$ $s = 0.899 \times 10^{10}$ cm $s = 0.094 \times 10^{7}$ km

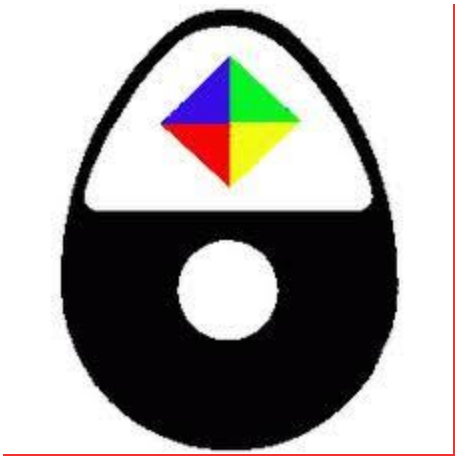
Relative z-displacement between two test particle in the vertical direction (z)

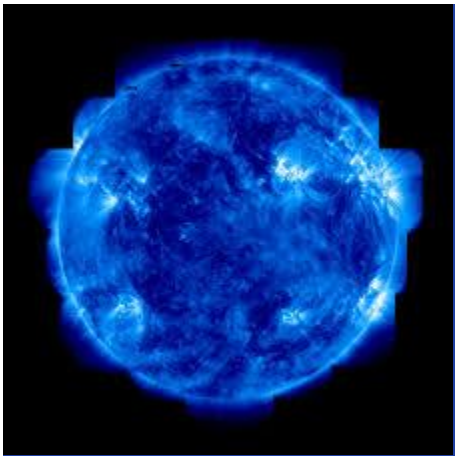
$S_z = -\left(\frac{1}{2}\right) a_{RE} (T)^2 S_E$ $S_z = 1.329$ mm $S_z = 1.329 \times 10^{-3}$ m

DEFINITION OF FLAT SPACE-TIME

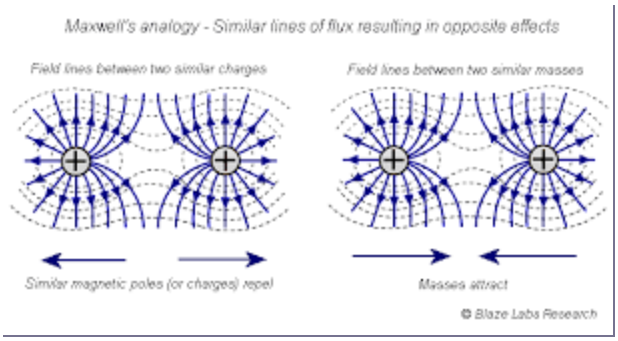
When the minimum uncertainty δL attainable in a measurement over a 100 m spacing is "worse" than 1.329 mm then to this level of precision the region of spacetime under consideration can be treated as flat. When the uncertainty in measurement is "better" than 1.329 mm, then one must limit attention to a smaller region of space or a shorter interval in time or both, to find a region of space-time that can be regarded as flat to the precision.



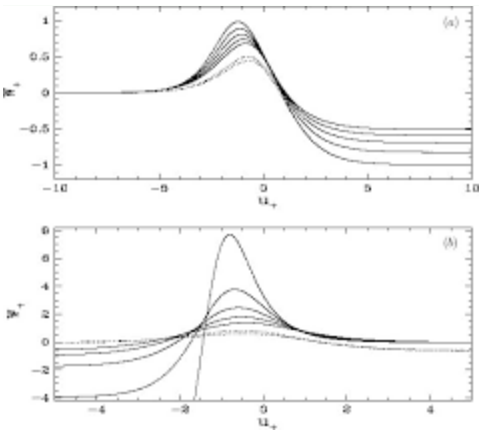


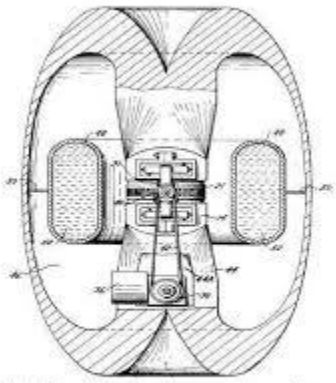












Method And Apparatus For Generating A Secondary Gravitational Force Field

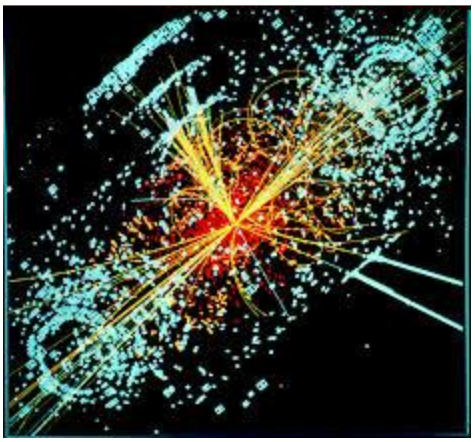






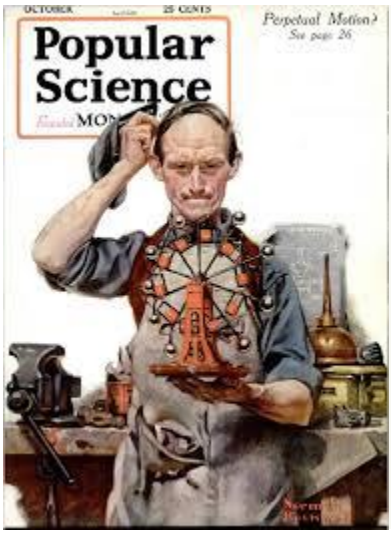




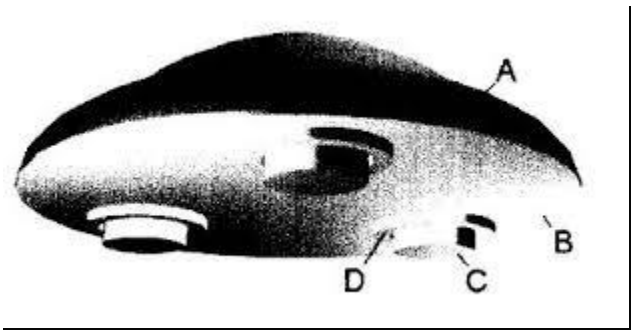








SU(2)xU(1) electroweak unification particles		*Weak isotopic charge*	*Weak hypercharge*	*Electric charge*
Quark doublet	u_L	+1/2	+1/3	+2/3
	d_L	-1/2	+1/3	-1/3
Quark singlets	u_R	0	+4/3	+2/3
	d_R	0	+2/3	-1/3
Lepton doublet	$(\nu_e)_L$	+1/2	-1	0
	e_L	-1/2	-1	-1
Lepton singlet	e_R	0	-2	-1
Boson triplet	W_+	+1	0	+1
	W_0/Z_0	0	0	0
	W_-	-1	0	-1
Boson singlet	B	0	0	0
Speculative Higgs boson doublet	φ_+	+1/2	+1	+1
	φ_0	-1/2	+1	0



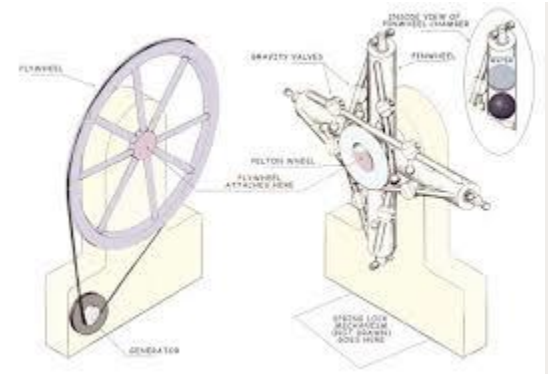


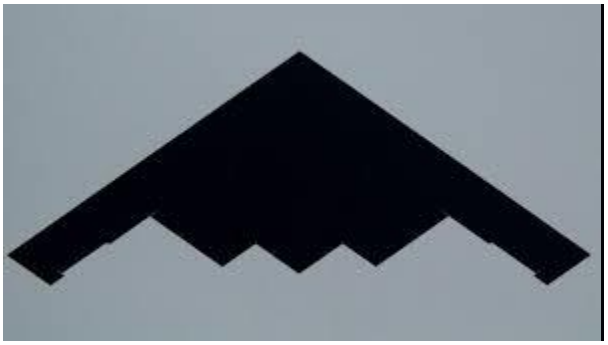






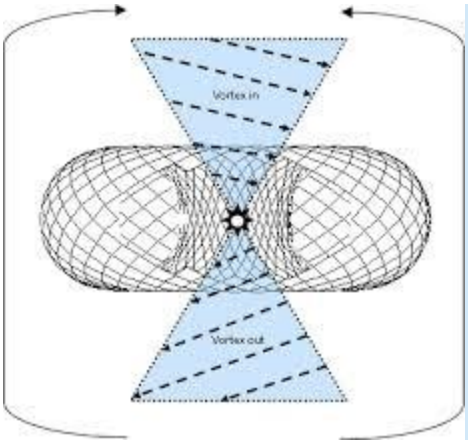

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FLYWHEEL
GRAVITY VALVES
PENSTOCK
PELTON WHEEL
GENERATOR






well, son, i think you're finally old enough to see my perpetual motion machine
it finds the dumbest investors in the world and extracts their money
whoa! how does it work?
Toothpaste For Dinner.com


Vortex in
Vortex out

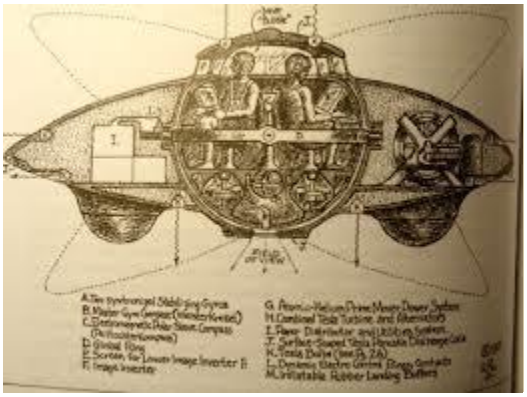






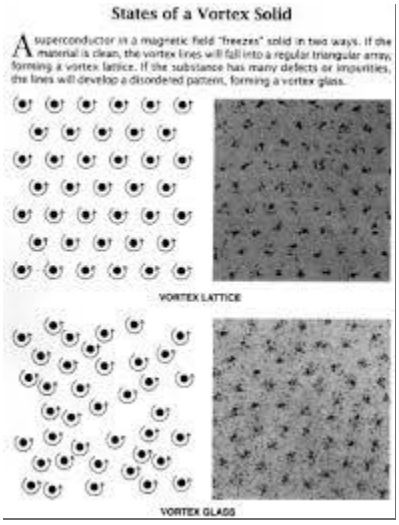
And travel zip quickly and cheaply through the sky in comfort

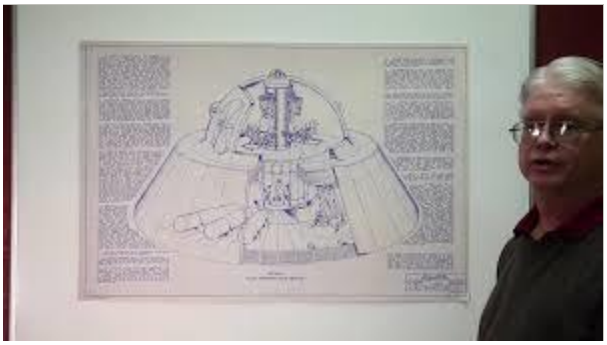




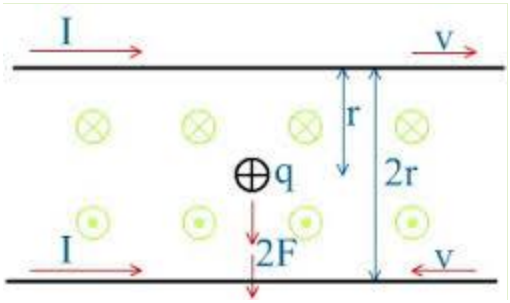
Because with antigrav, we'll be able to put traffic jams in the dustbin of history



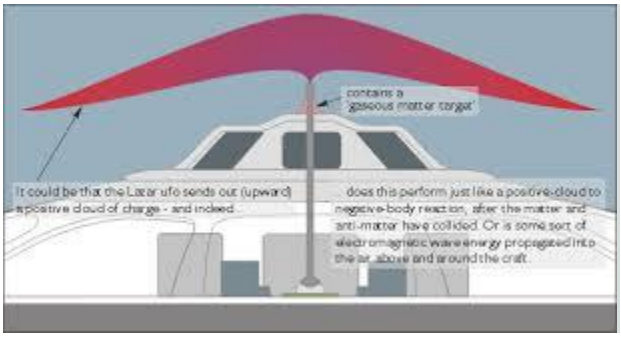


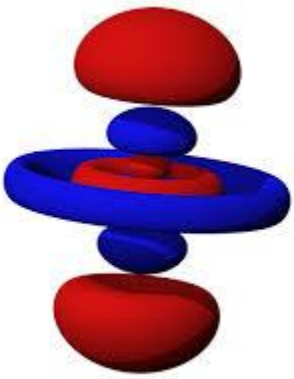












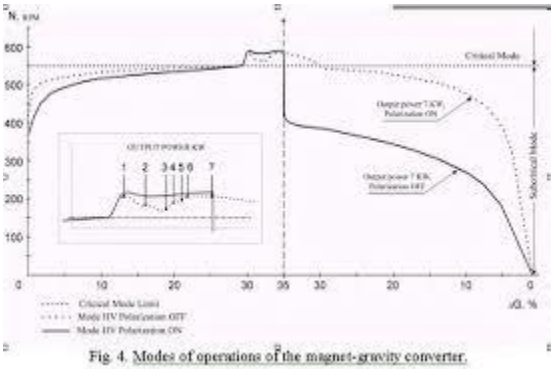
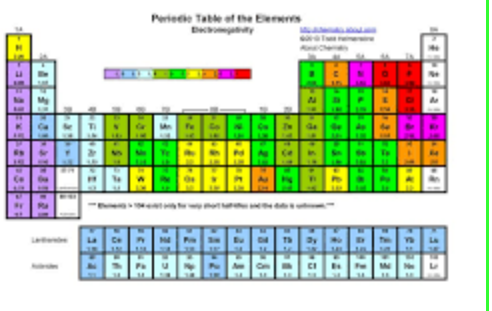


Fig. 4. Modes of operations of the magnet-gravity converter.



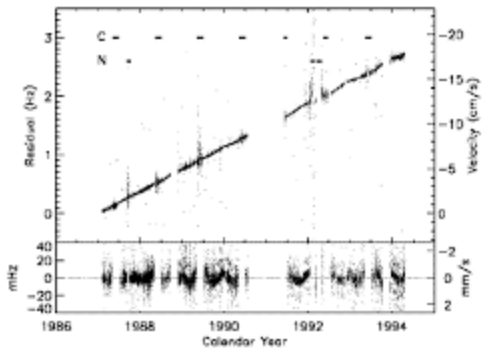
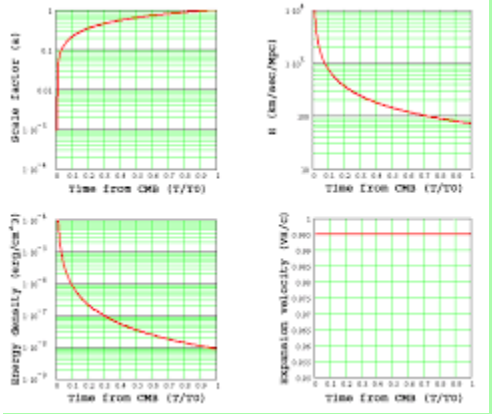
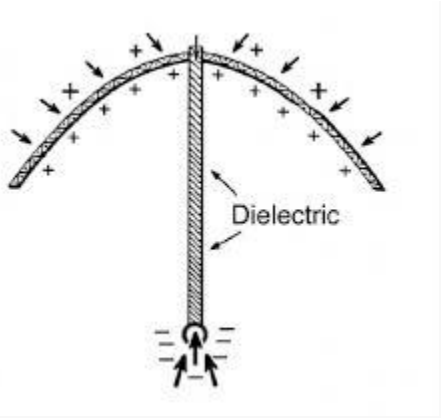


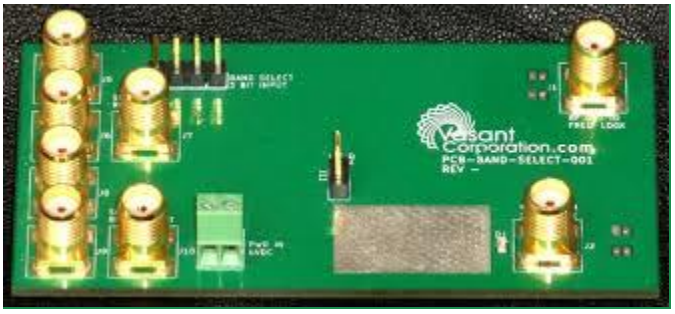
FIG. 2: Doppler residuals as a function of time of the best fit model. The top panel shows the



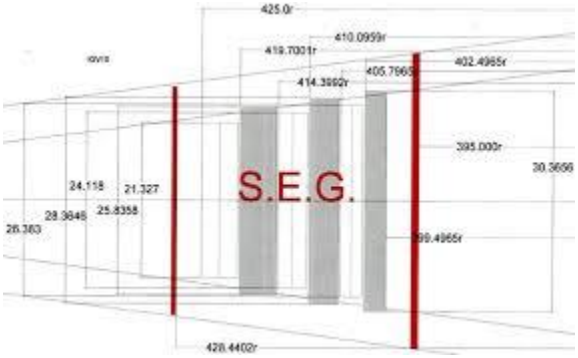





Dielectric

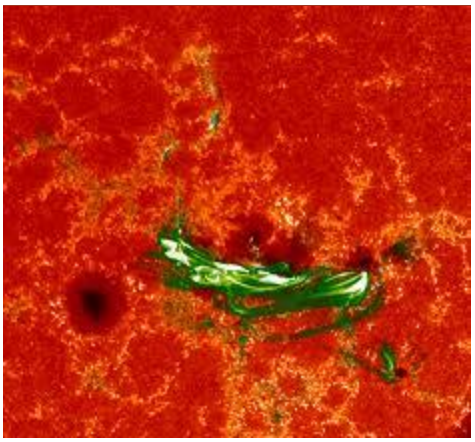

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425.0r
410.0959r
419.7001r
402.4985r
414.3992r
405.7965
395.000r
30.3656
24.118
21.327
S.E.G.
28.3848
25.8358
26.383
99.4965r
428.4402r

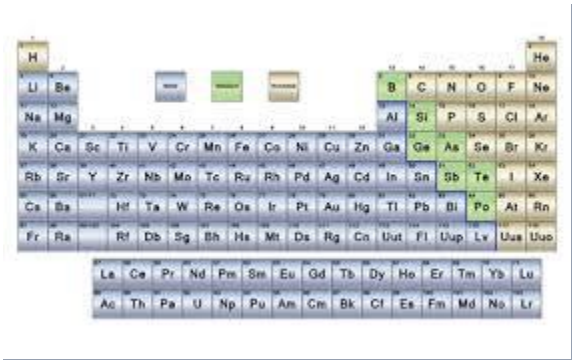

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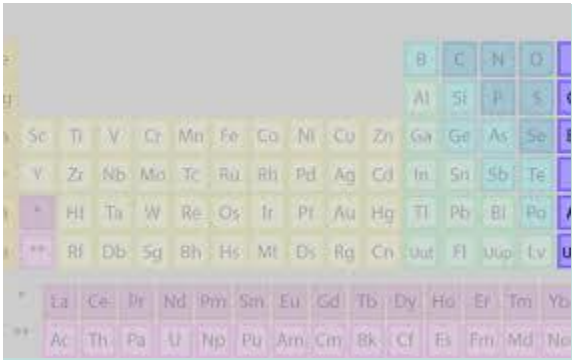


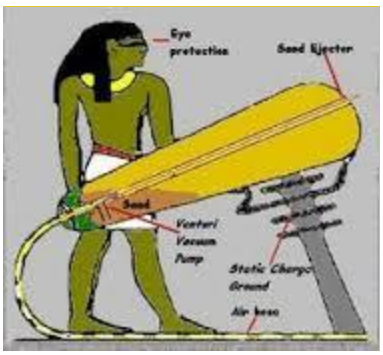





H He
Li Be B C N O F Ne
Na Mg Al Si P S Cl Ar
K Ca Sc Ti V Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe
Cs Ba Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn
Fr Ra Rf Db Sg Bh Hs Mt Ds Rg Cn Uut Fl Uup Lv Uus Uuo
La Ce Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
Ac Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr





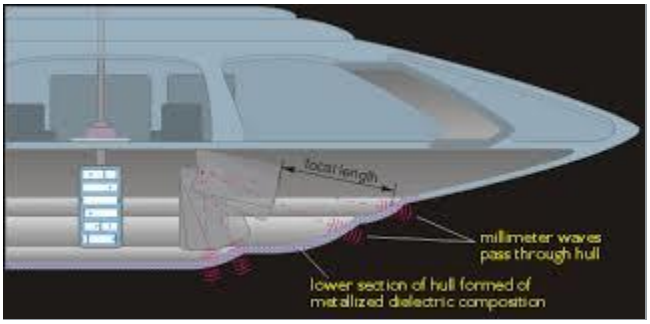

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Sand Ejector
Sand
Venturi Vacuum Pump
Static Charge Ground
Air hose


55 Cesium 133


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REV -

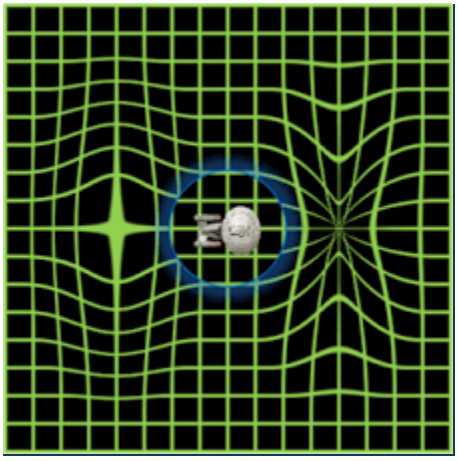


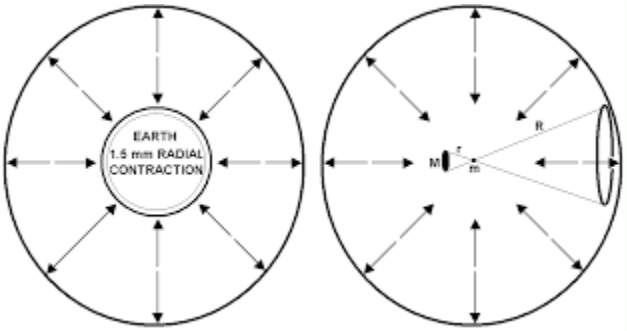




On one hand, corona discharge caused the ionization of air molecules at certain points on the disc









(NASA-TM-80961) FIELD RESONANCE PROPULSION CONCEPT (NASA) 13 p HC A02/MF A01 CSCL 21C

03/23

August 1979

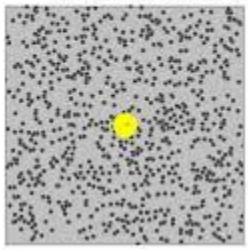
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National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



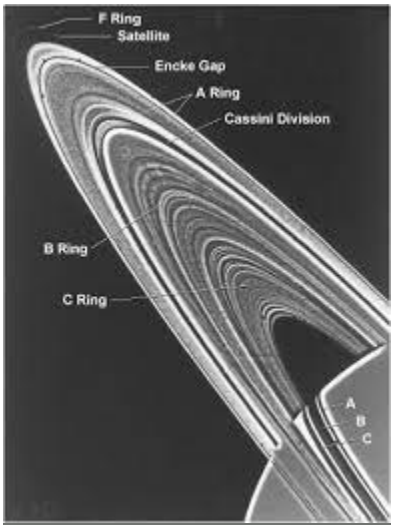


In Quantum Electrodynamics, subatomic ("virtual") particles are constantly flitting in and out of physical existence, most of them existing physically for far less than a second



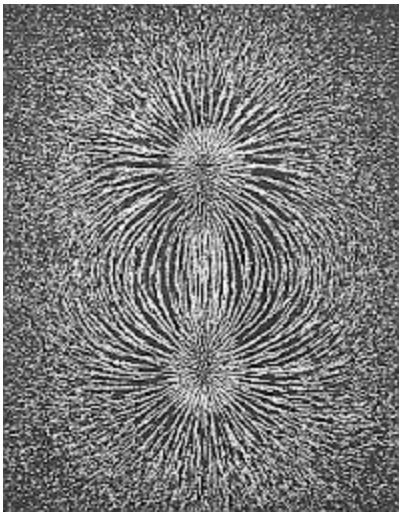


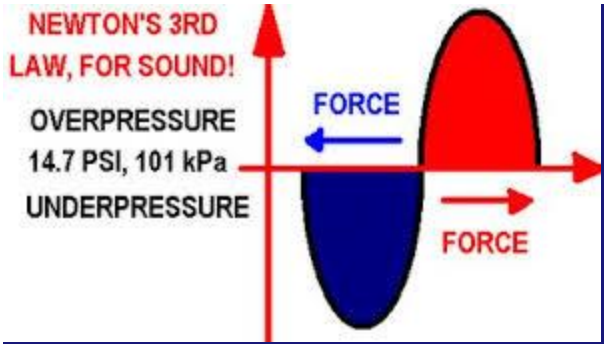






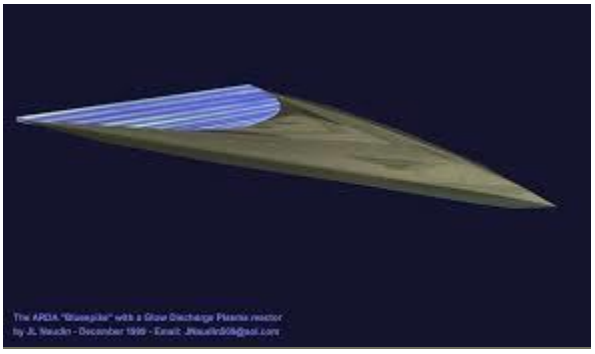


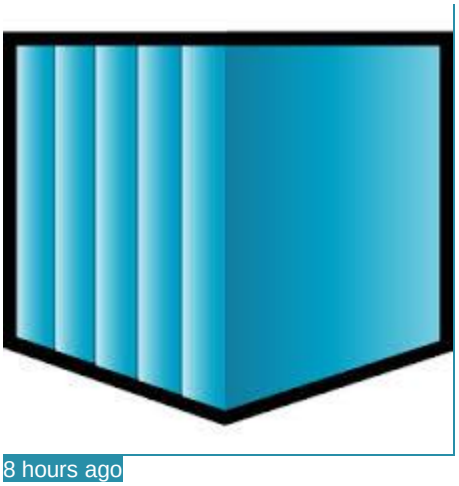



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LAW, FOR SOUND!
OVERPRESSURE
14.7 PSI, 101 kPa
UNDERPRESSURE
FORCE
FORCE



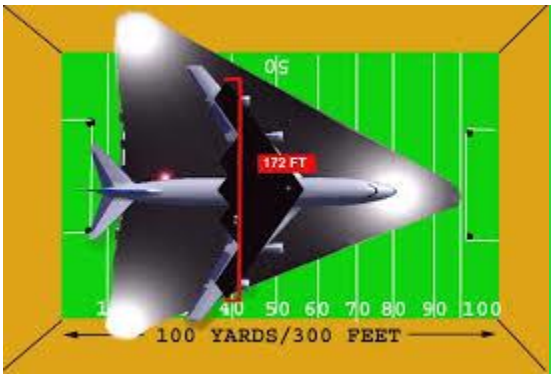

GROUP TRENDS
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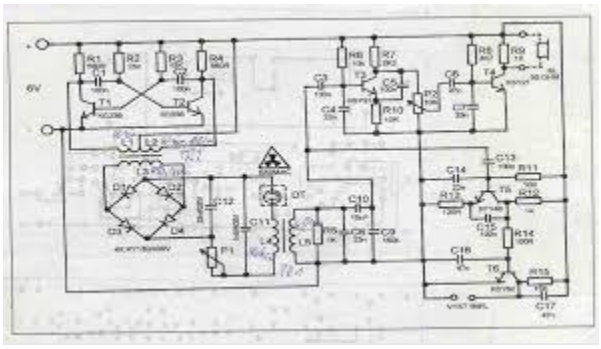




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100 YARDS/300 FEET




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A
TITRE
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THE GRAVITATOR PRINCIPLE
AND ITS
APPLICATIONS


European Commission President Says he Spoke to Leaders of Other Planets about Brexit
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WHAT IS AN EXCITED STATE?
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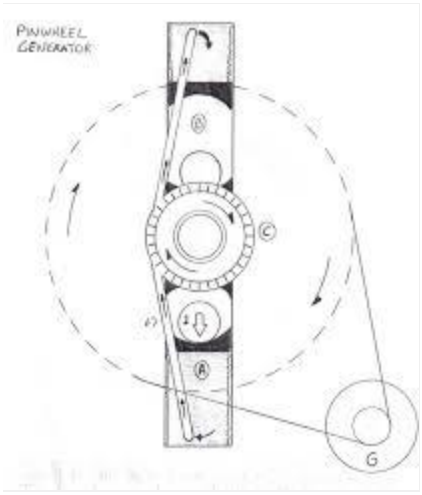


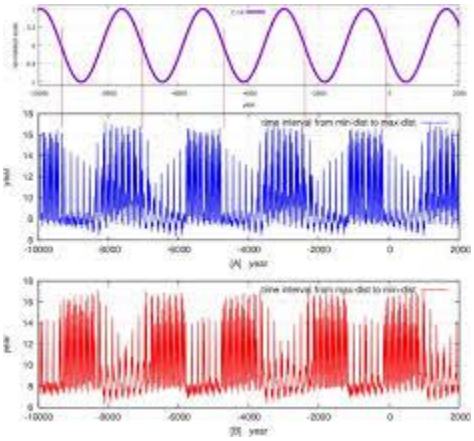




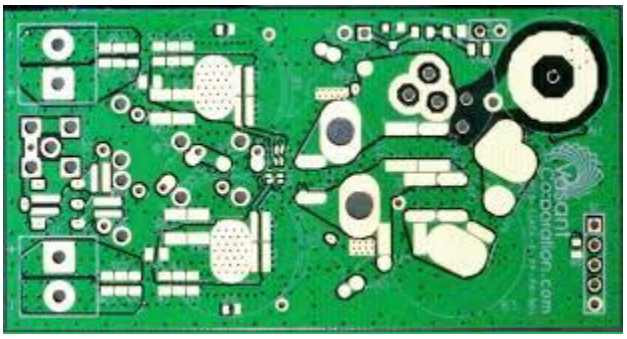

Spin Wave Technology
FREE ENERGY
SAUCER SCIENCE
The Flying Resonant Cavity
The Motionless Electromagnetic Generator
Initial Release Collector's Edition

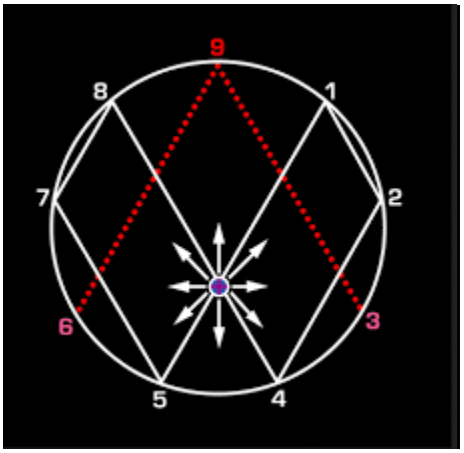



PINWHEEL
GENERATOR

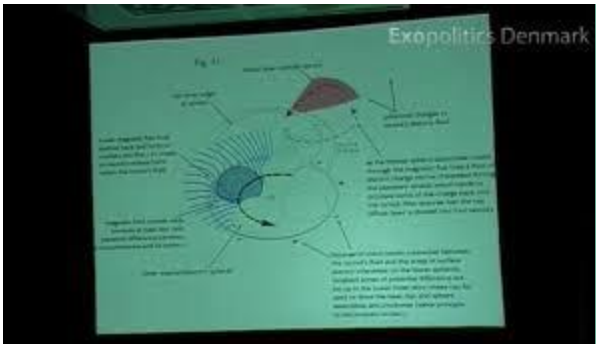

time interval from min-dist to max-dist
year
(A)
time interval from max-dist to min-dist
year
(B)


Semifinalist
The Quark
2012
PRIZE IN
SCIENCE
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9
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4



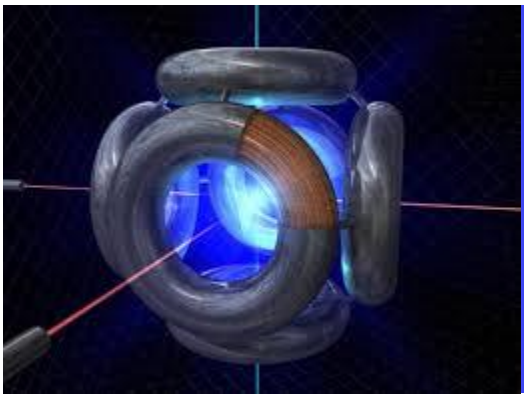

Exopolitics Denmark

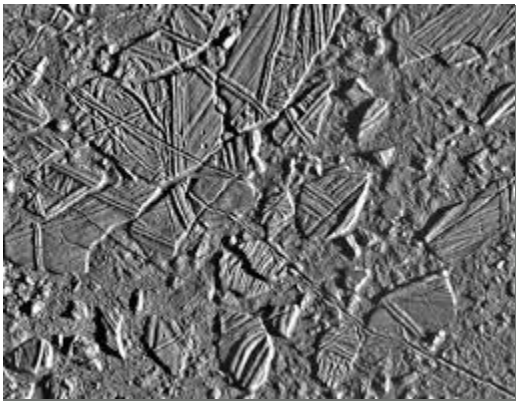


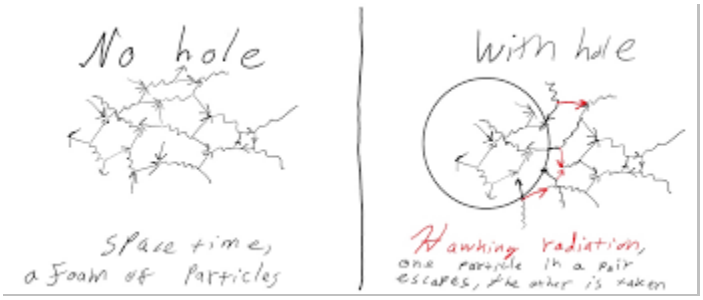


Maxwell's equations		Heaviside's equations	
ε_0	$8.855 \cdot 10^{-12}\ m^{-3} \cdot kg^{-1} \cdot s^4 \cdot A^2$	g_0	$1.193 \cdot 10^{9}\ m^{-3} \cdot kg \cdot s^2$
μ_0	$1.257 \cdot 10^{-6}\ m \cdot kg \cdot s^{-2} \cdot A^{-2}$	σ_0	$0.9329 \cdot 10^{-26}\ m \cdot kg^{-1}$
ρ_E	$m^{-3} \cdot s \cdot A = Kl / m^3$	ρ_G	$m^{-3} \cdot kg = kg / m^3$
J_E	$m^{-2} \cdot A = A / m^2$	J_G	$m^{-2} \cdot kg \cdot s^{-1} = \frac{kg \cdot m \cdot s^{-1}}{m^3}$
P_E	$m^{-2} \cdot s \cdot A = \frac{Kl \cdot m}{m^3}$	P_G	$m^{-2} \cdot kg = \frac{kg \cdot m}{m^3}$
P_M	$m^{-1} \cdot A = \frac{A \cdot m^2}{m^3}$	P_S	$m^{-1} \cdot kg \cdot s^{-1} = \frac{kg \cdot m^2 \cdot s^{-1}}{m^3}$
E	$m \cdot kg \cdot s^{-3} \cdot A^{-1} = \frac{kg}{Kl}(m \cdot s^{-2})$	G	$m \cdot s^{-2}$
M'	$Kg \cdot s^{-2} \cdot A^{-1} = \frac{kg}{Kl}(s^{-1})$	S	s^{-1}





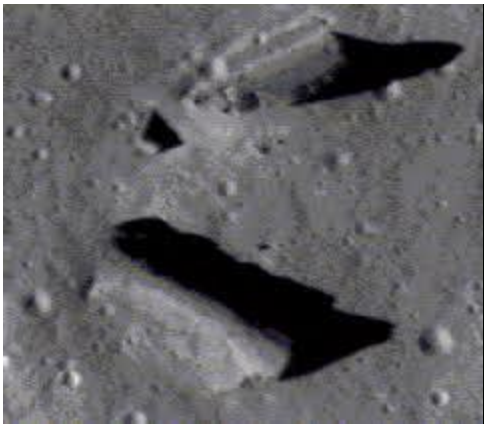








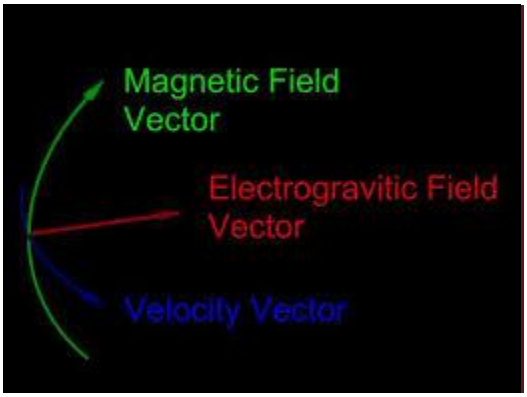


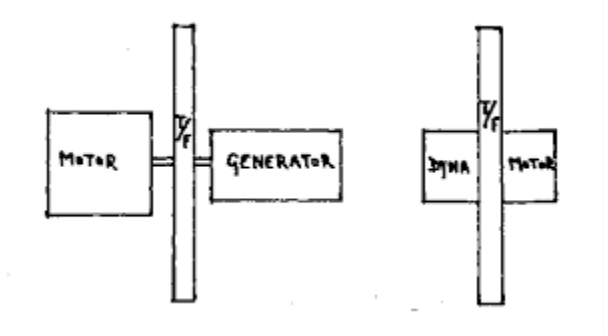


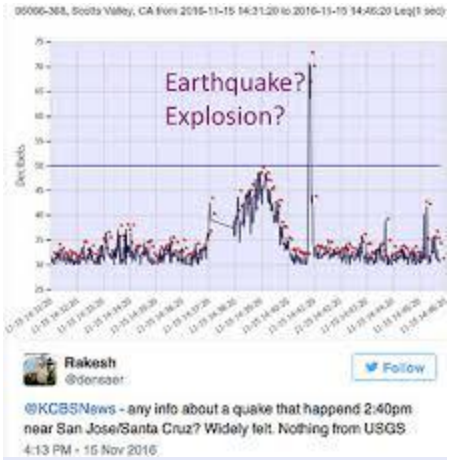







Magnetic Field Vector
Electrogravitic Field Vector
Velocity Vector


MOTOR
GENERATOR
DYNA
MOTOR


Earthquake?
Explosion?
Rakesh
@donsaer
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@KCBSNews - any info about a quake that happend 2:40pm near San Jose/Santa Cruz? Widely felt. Nothing from USGS
4:13 PM - 15 Nov 2016

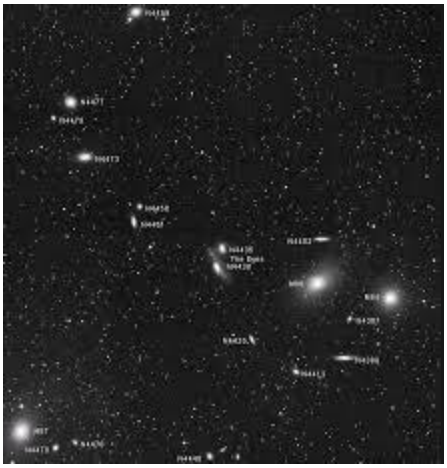
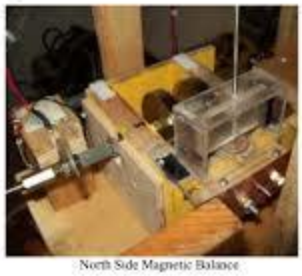




Fig. 3

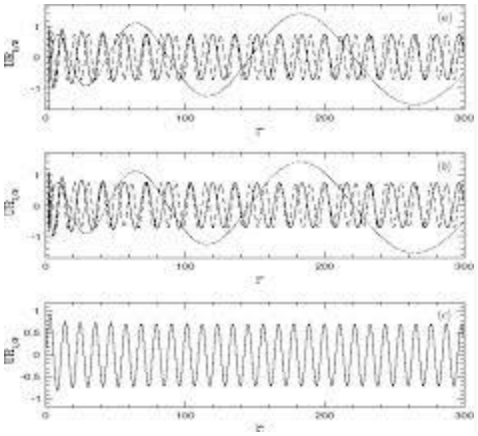


North Side Magnetic Balance

Fig. 4



South Side Magnetic Balance

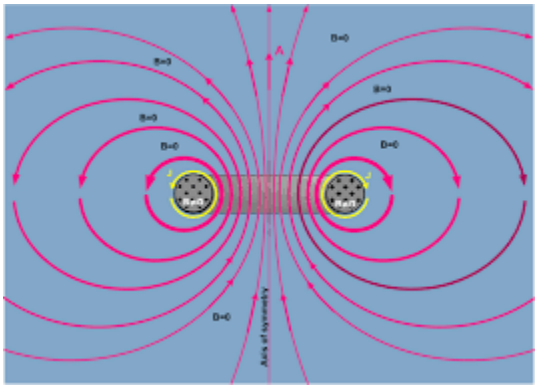


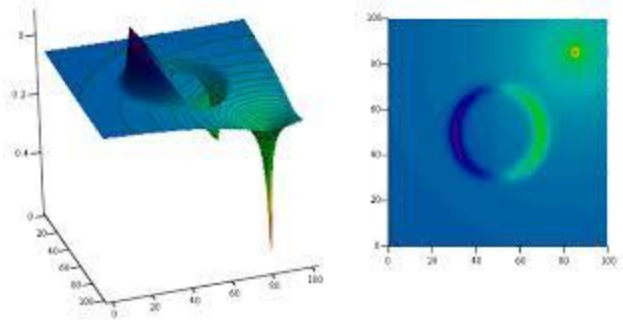
blue Nobel badge, issued to synchro1



YouTube™











Volume 2
No. 12

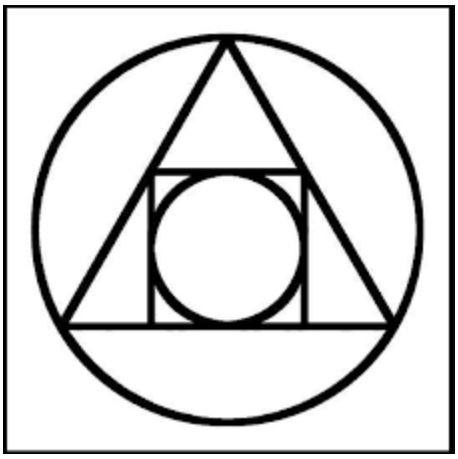
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EDITORIAL

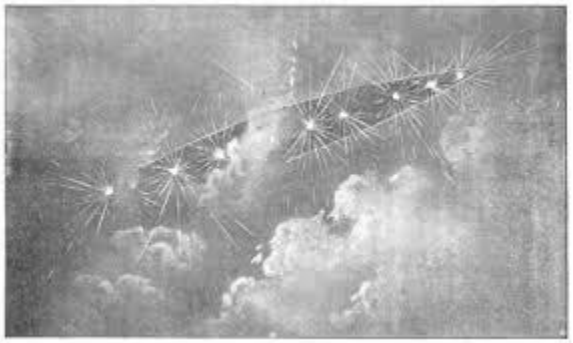
Faster Than Light!

By HUGO GERNSBACK

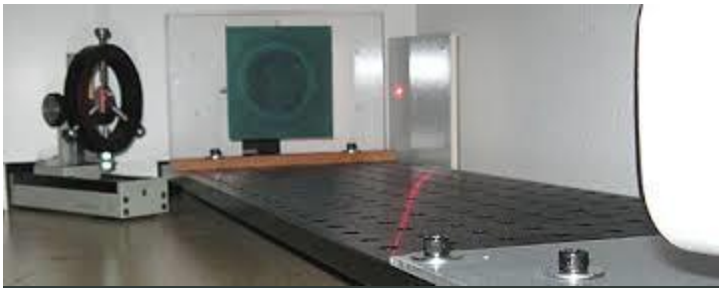


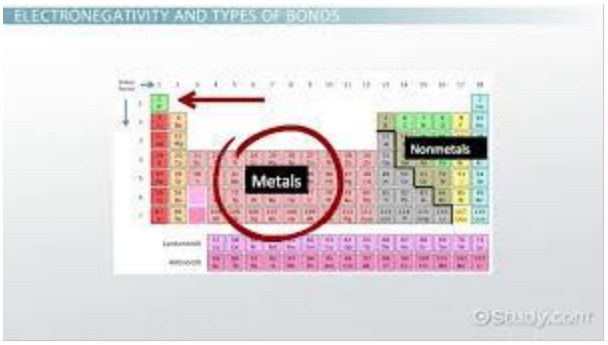




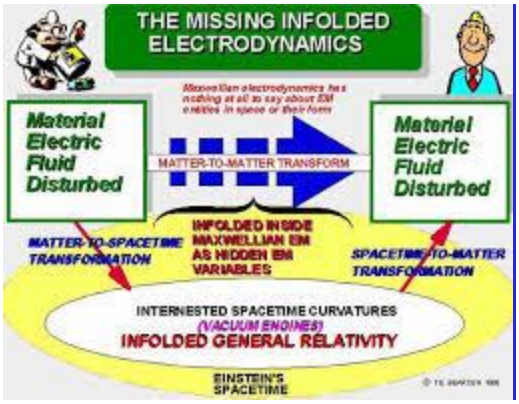


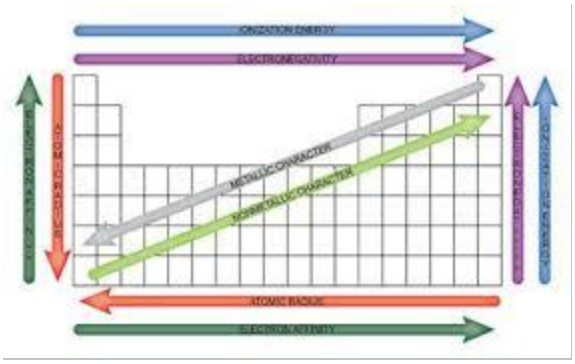






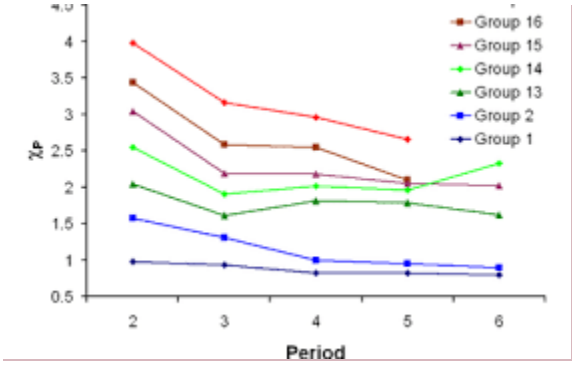


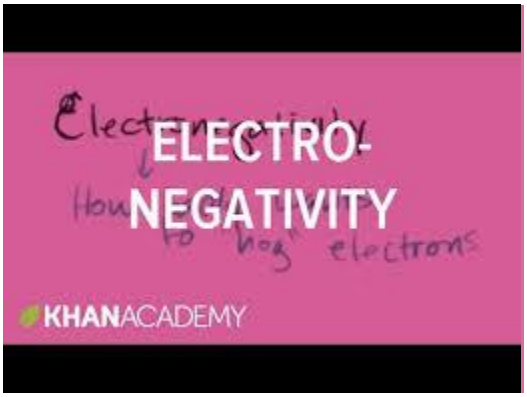












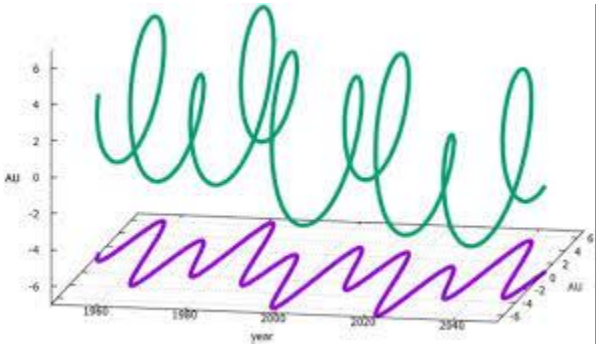


$$\frac{\partial}{\partial \varphi^{\alpha}} = \frac{\partial}{\partial \phi^{\alpha}} - B_{\mu}^{(a)} X_{(a)\alpha}^{\beta} \frac{\partial}{\partial \phi_{,\mu}^{\beta}}$$

$$\frac{\partial}{\partial \varphi_{,\mu}^{\alpha}} = K_{\nu}^{\mu} \frac{\partial}{\partial \phi_{,\nu}^{\alpha}}$$

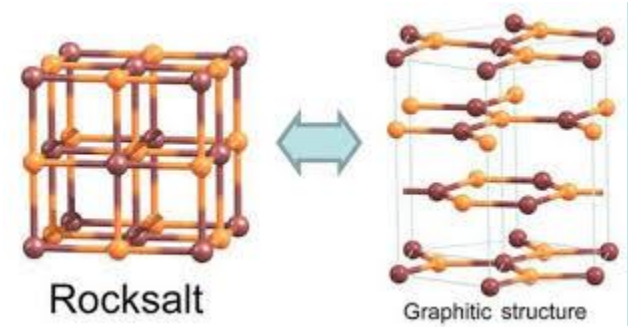
$$\frac{\partial}{\partial \mathcal{A}_{\mu}^{(a)}} = \frac{\partial}{\partial B_{\mu}^{(a)}} - X_{(a)\beta}^{\alpha} \phi^{\beta} \frac{\partial}{\partial \phi_{,\mu}^{\alpha}} \tag{28}$$

$$\frac{\partial}{\partial k_{\mu}^{\nu}} = \frac{\partial}{\partial K_{\mu}^{\nu}} + Q_{\nu}^{\sigma} \left(\phi_{,\sigma}^{\alpha} + B_{\sigma}^{(a)} X_{(a)\beta}^{\alpha} \phi^{\beta} \right) \frac{\partial}{\partial \phi_{,\mu}^{\alpha}}.$$




news
news
news


CLUB

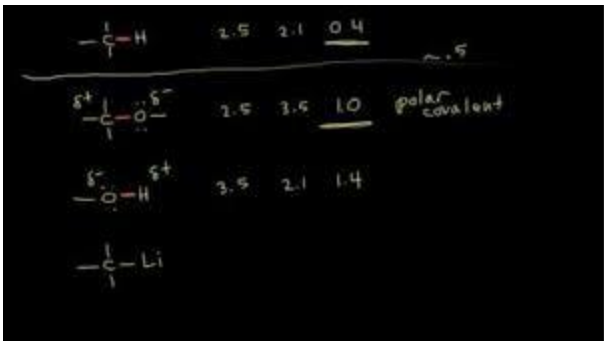

Rocksalt
Graphitic structure

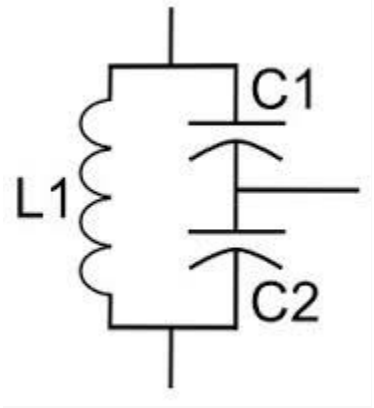




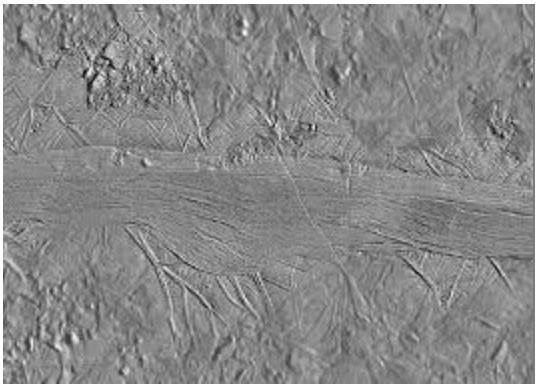

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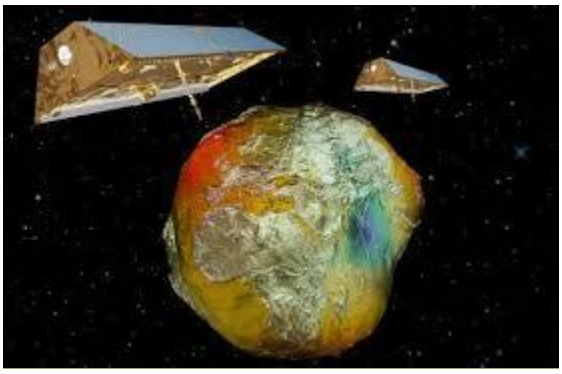

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2.5 3.5 1.0
polar covalent
3.5 2.1 1.4

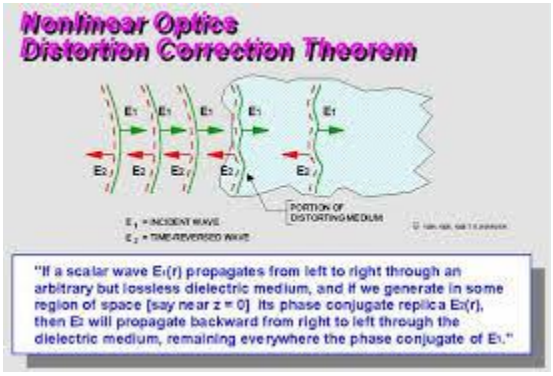

C1
L1
C2

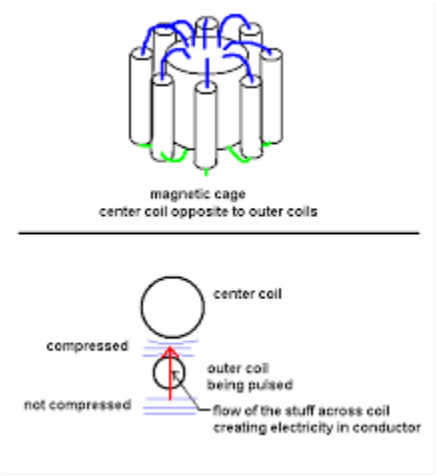

An Active GDP Skin under test by JL Naudin - Feb 2
Email: JNaudin509@aol.com - http://go.to/jlnlabs/



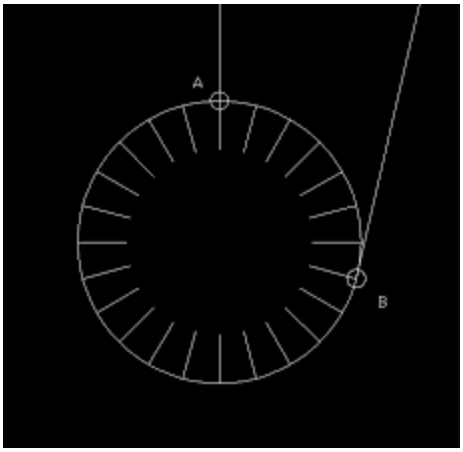

UNDERWATER BASES AND ALIEN CIVILIZATION




Nonlinear Optics
Distortion Correction Theorem
E1
E2
PORTION OF DISTORTING MEDIUM
E1 = INCIDENT WAVE
E2 = TIME-REVERSED WAVE
"If a scalar wave E1(r) propagates from left to right through an arbitrary but lossless dielectric medium, and if we generate in some region of space [say near z = 0] its phase conjugate replica E2(r), then E2 will propagate backward from right to left through the dielectric medium, remaining everywhere the phase conjugate of E1."


magnetic cage
center coil opposite to outer coils
center coil
compressed
outer coil
being pulsed
not compressed
flow of the stuff across coil
creating electricity in conductor




A
B

Infolded Engines: Excluded by Present Physics

- *The infolded dynamics of EM systems are not considered in general relativity, electromagnetics, or quantum mechanics*
- *None of these disciplines include such spacetime curvature engines (vacuum engines)*
- *Thus GR, EM, and QM cannot be unified, since ST curvature engines are where the unification mainly occurs*

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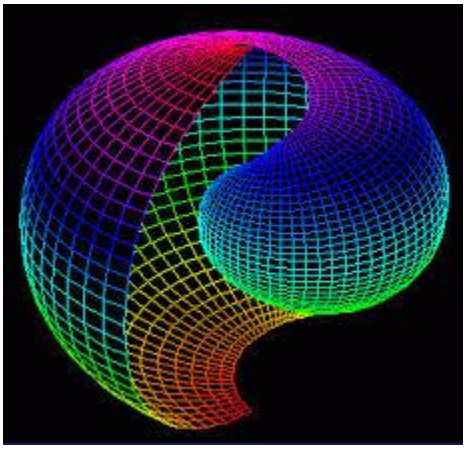
Banned on Holocaust Radio advertisement.

This is to show the world that I can paint like Titian.



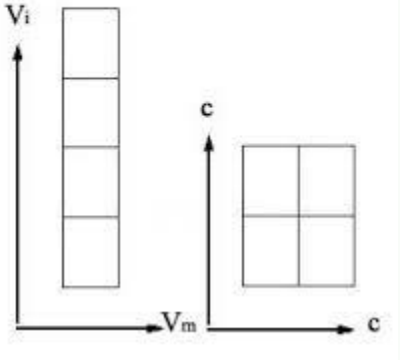
Only technical details are missing.

W. Pauli

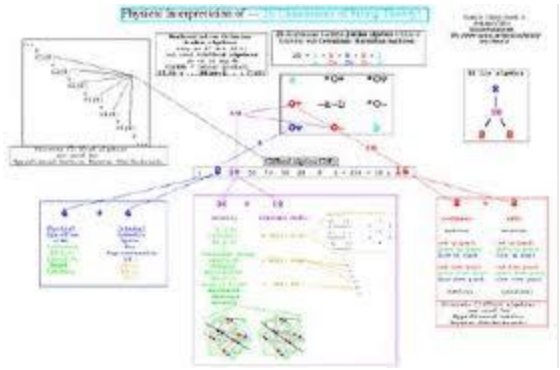


The Great Velocity Equation

$$(Vm)(Vi) = (c)(c)$$

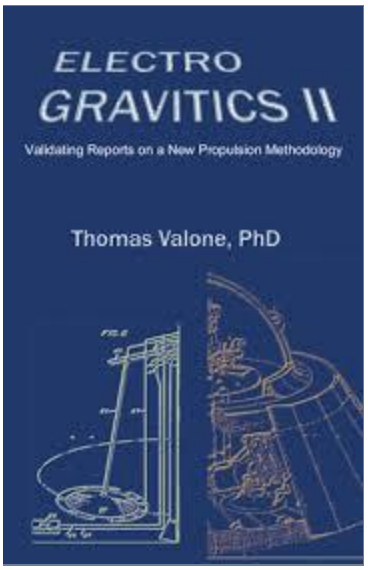


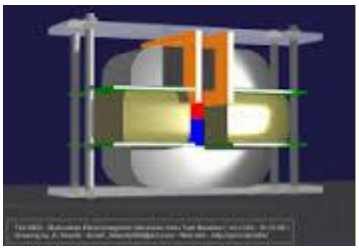


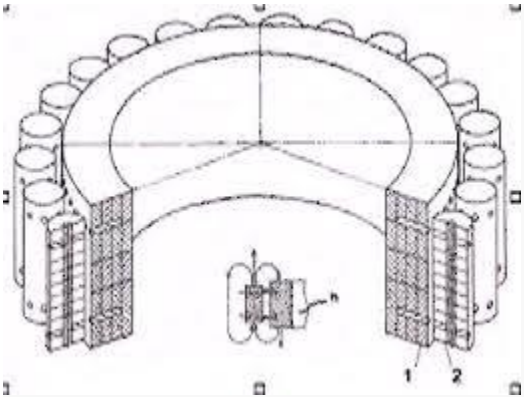


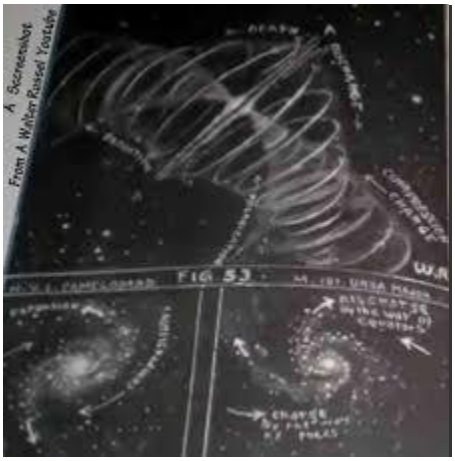


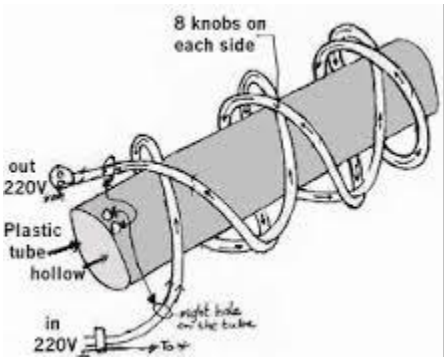


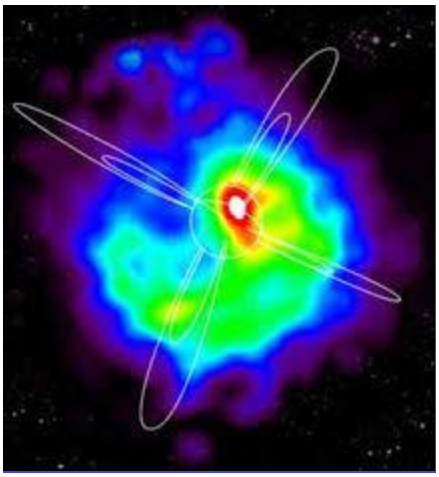

ELECTRO
GRAVITICS II
Validating Reports on a New Propulsion Methodology
Thomas Valone, PhD




1
2


A Screenshot From A Walter Russell Youtube
FIG 53

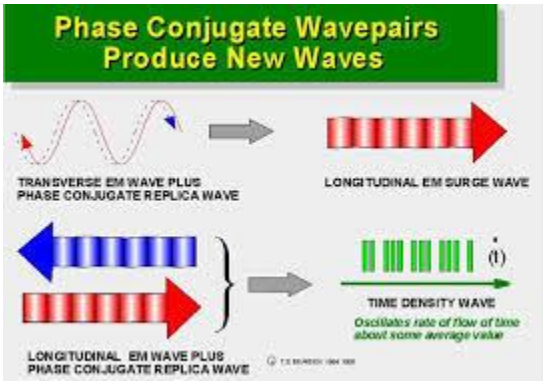

8 knobs on each side
out 220V
Plastic tube hollow
in 220V

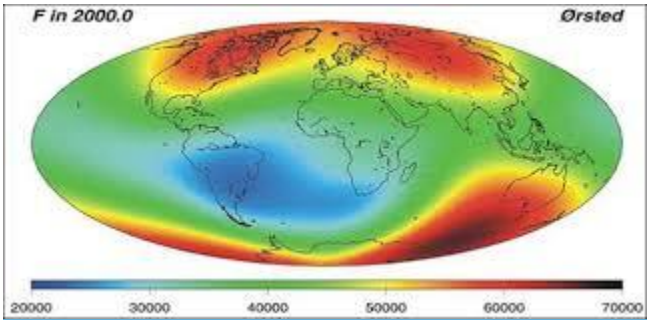


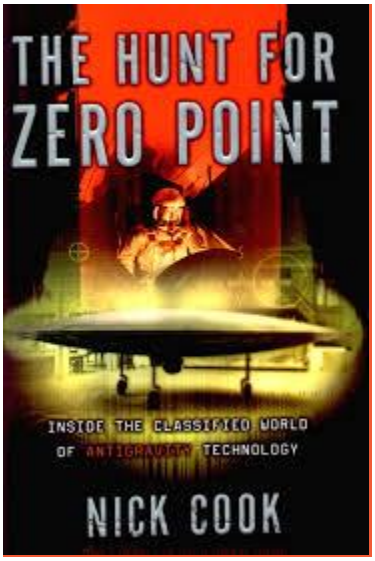
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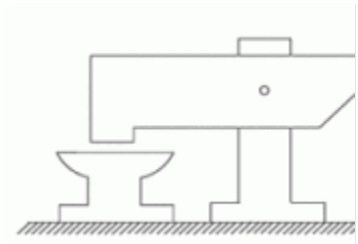




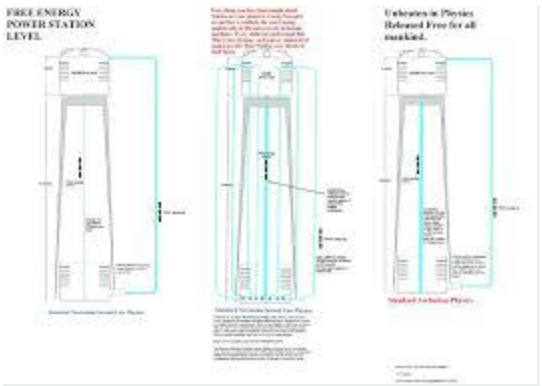

Phase Conjugate Wavepairs
Produce New Waves
TRANSVERSE EM WAVE PLUS
PHASE CONJUGATE REPLICA WAVE
LONGITUDINAL EM SURGE WAVE
TIME DENSITY WAVE
Oscillates rate of flow of time
about some average value
LONGITUDINAL EM WAVE PLUS
PHASE CONJUGATE REPLICA WAVE


F in 2000.0
Ørsted
20000
30000
40000
50000
60000
70000


THE HUNT FOR
ZERO POINT
INSIDE THE CLASSIFIED WORLD
OF ANTIGRAVITY TECHNOLOGY
NICK COOK

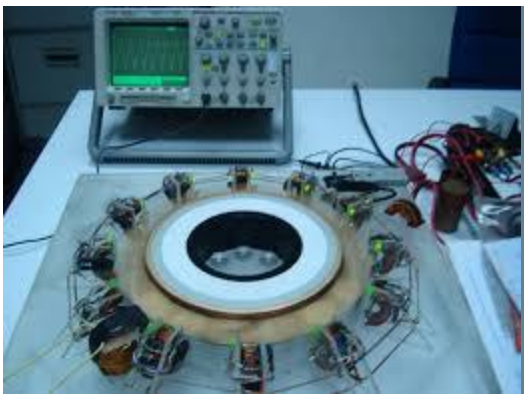



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FREE ENERGY
POWER STATION
LEVEL









AFIT/GA/ENY/12-M06

GRAVITATIONAL LENS DEEP SPACE PROBE DESIGN

THESIS

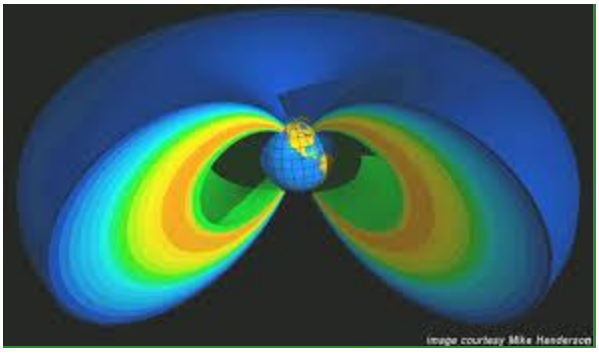
Presented to the Faculty
Department of Aeronautics and Astronautics
Graduate School of Engineering and Management
Air Force Institute of Technology
Air University
Air Education and Training Command
In Partial Fulfillment of the Requirements for the
Degree of Master of Science in Astronautical Engineering

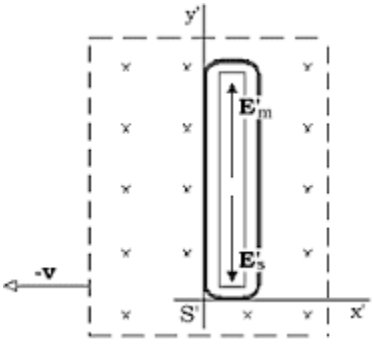
Berkley R. Davis, B.S.
Second Lieutenant, USAF

March 2012

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19 March 2012

GRAVITATIONAL LENS DEEP SPACE PROBE DESIGN

THESIS

Berkley R. Davis, Second Lieutenant, USAF

AFIT/GA/ENY/12-M06

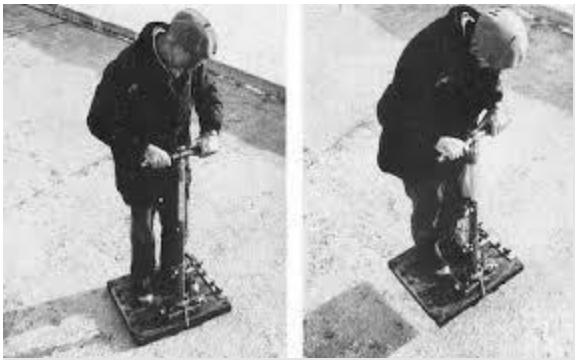
DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

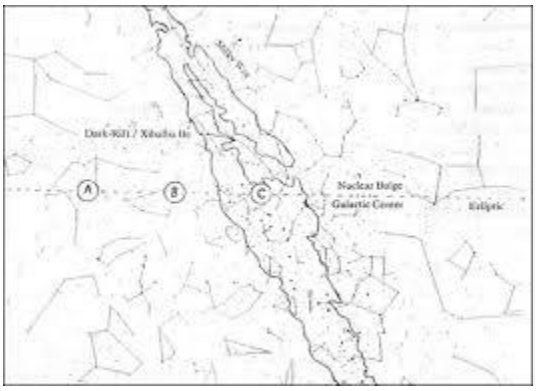
Wright-Patterson Air Force Base, Ohio

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Date	Time (Aproximate to 10 minutes, more or less)	Weighted (Aproximate to 500g, more or less)	Normal Weight	Type of Scale	Report Number
03/0800	23h 40m	43.248Kg	41.600Kg	Electronic	1-8-00
12/0900	00h 20m	43.876Kg	41.600Kg	Electronic	1-9-00
18/0900	00h 25m	5 Kg	41.600Kg	Mechanical	2-9-00
21/0900	00h 50m	7.200Kg	41.600Kg	Mechanical	3-9-00
22/0900	04h 10m	4.700Kg	41.600Kg	Mechanical	4-9-00
27/0900	00h 20m	5.300Kg	41.600Kg	Mechanical	5-9-00
29/0900	01h 35m	5.600Kg	41.600Kg	Mechanical	6-9-00
"/"/"	" "	78.800Kg	41.600Kg	Mechanical	6-9-00
11/1000	22h 40m	41.500kg	42Kg	Mechanical	1-10-00
15/1000	00h 20m	6.100Kg	42Kg	Mechanical	2-10-00
16/1000	03h 10m	5.200Kg	42Kg	Mechanical	3-10-00
17/1000	00h 25m	5.900Kg	42Kg	Mechanical	4-10-00
19/1000	05h 10m	3.800Kg	42Kg	Mechanical	5-10-00
23/1000	04h 45m	3.600Kg	42Kg	Mechanical	6-10-00
27/1000	01h 40m	4.300Kg	42Kg	Mechanical	7-10-00
28/1000	02h 50m	5.300Kg	42Kg	Mechanical	8-10-00
09/1100	01h 40m	3.200Kg	42Kg	Mechanical	1-11-00
10/1100	03h 10m	00000Kg	42Kg	Mechanical	2-11-00
19/1100	00h 35m	00000Kg	42Kg	Mechanical	3-11-00
23/1100	04h 40m	4.300Kg	42Kg	Mechanical	4-11-00
27/1100	00h 10m	4.900Kg	42Kg	Mechanical	5-11-00
29/1100	01h 40m	4.200Kg	42Kg	Mechanical	6-11-00









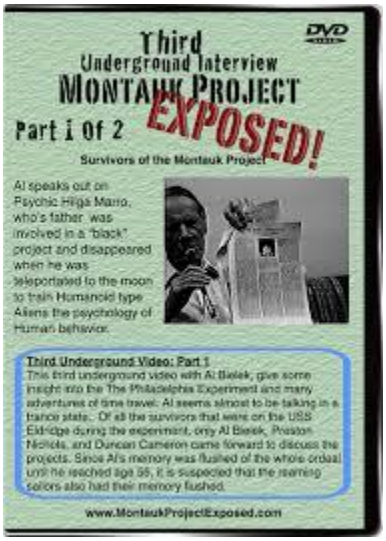







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9:10
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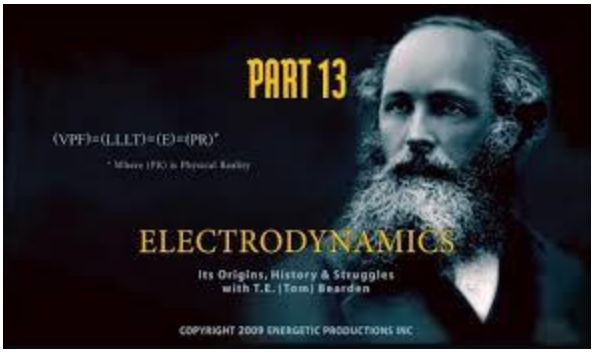

DVD
Third
Underground Interview
MONTAUK PROJECT
Part 1 Of 2
EXPOSED!
Survivors of the Montauk Project
Al speaks out on Psychic Hilga Marra, who's father was involved in a "black" project and disappeared when he was teleportated to the moon to train Humanoid type Aliens the psychology of Human behavior.
Third Underground Video: Part 1
This third underground video with Al Bielek, give some insight into the The Philadelphia Experiment and many adventures of time travel. Al seems almost to be talking in a trance state.. Of all the survivors that were on the USS Eldridge during the experiment, only Al Bielek, Preston Nichols, and Duncan Cameron came forward to discuss the projects. Since Al's memory was flushed of the whole ordeal until he reached age 55, it is suspected that the rearming sailors also had their memory flushed.
www.MontaukProjectExposed.com

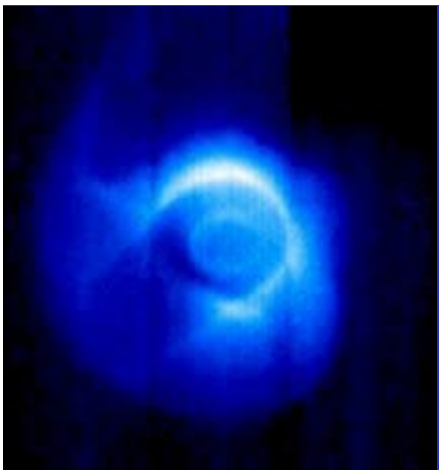

PART 36
A Dialogue with T.E. (Tom) Bearden
ENGINEERING PHYSICAL REALITY
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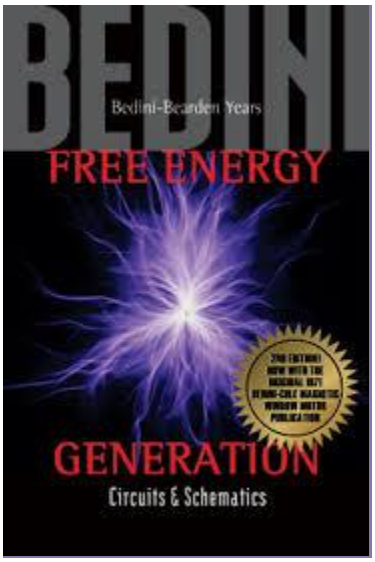


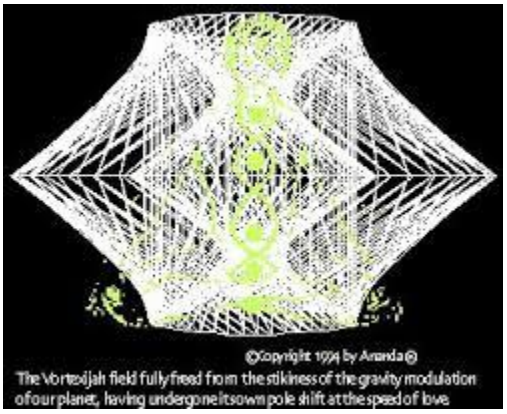



PART 13
(VPF)=(LLLT)=(E)=(PR)*
* Where (PR) is Physical Reality
ELECTRODYNAMICS
Its Origins, History & Struggles
with T.E. (Tom) Bearden
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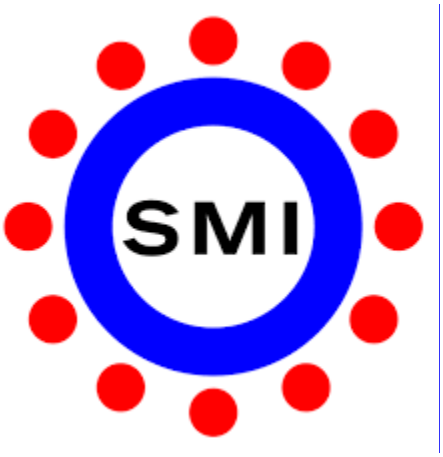




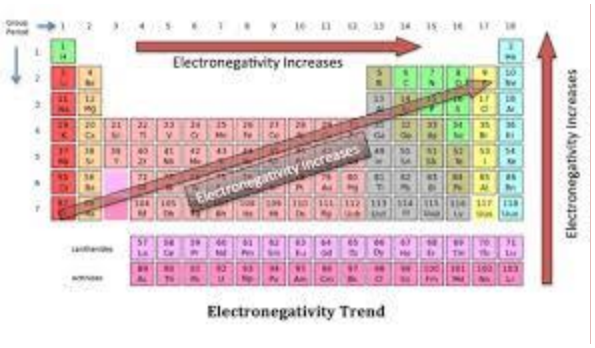

BEDINI
Bedini-Bearden Years
FREE ENERGY
GENERATION
Circuits & Schematics

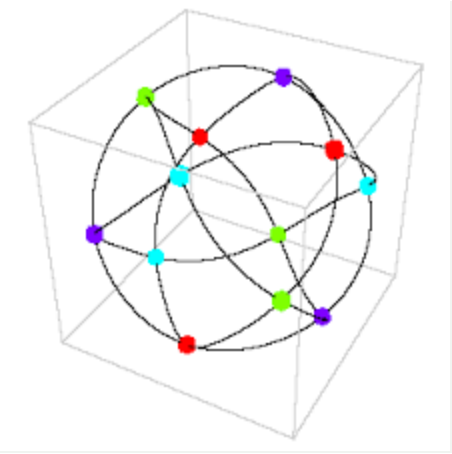

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The Vortexijah field fully freed from the stikiness of the gravity modulation of our planet, having undergone its own pole shift at the speed of love.




SMI




Electronegativity Increases
Electronegativity Increases
Electronegativity Increases
Electronegativity Trend



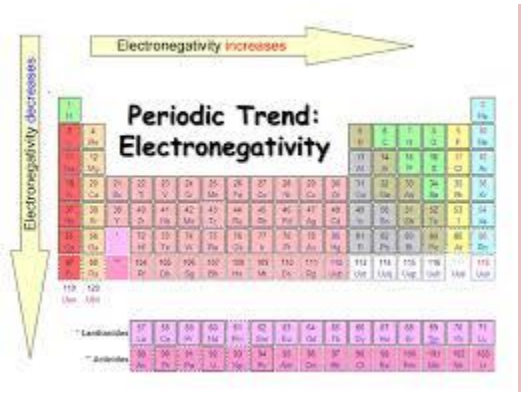


Full UFO/UAP file list 1979-2009:

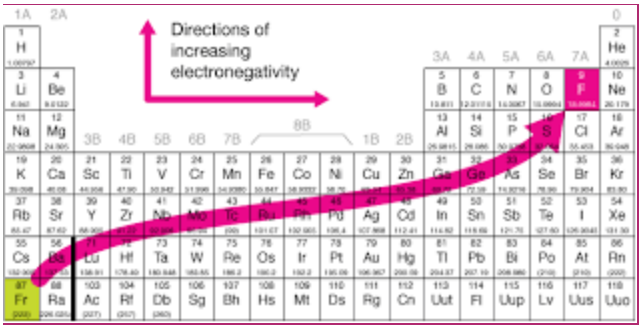
File Reference	File Title
DAIRDEF/111/6/4	C31 AIR TRAFFIC CONTROL LOW FLYING UFOS
D/DAIRDEF/111/6/4	C3I AIR TRAFFIC CONTROL LOW FLYING UFOS
D/DAIRDEF/111/6/4	CS I AIR TRAFFIC CONTROL LOW FLYING UFO S
D/DOOPS(GE)/10/8	ADMIN + GENERAL UFOS
D/DAO1/13	ADGE UFO REPORTS
D/DAO1/13	ADGE UFO REPORTS
D/DAO1/13	ADGE UFO REPORTS
D/DAO1/13	ADGE UFO REPORT
D/DAO1/13	ADGE UFO REPORTS
D/PR2X/2/4/1	FREEDOM OF INFORMATION ACT 2000 (FOI) COPYRIGHT ISSUES CONCERNING INTERNET PUBLICATION REPORTS OF UFO SIGHTINGS
2GP(BPY)/88772/10/ISTAR	UFO Reports
M9/18	Defence Policy issues UFOs
D/DS8/75/2/1	UFO Reports Correspondence
D/DI55/108/15	UFO Policy 1971-96
D/DI55/108/15	UFO Policy 1996-2000
D/DI55/108/15	UAP Policy June-Dec 2000
D/DI55/108/15	UAP Policy Dec 2000-March 2004
D/DI55/108/15	UAP Policy March 2004







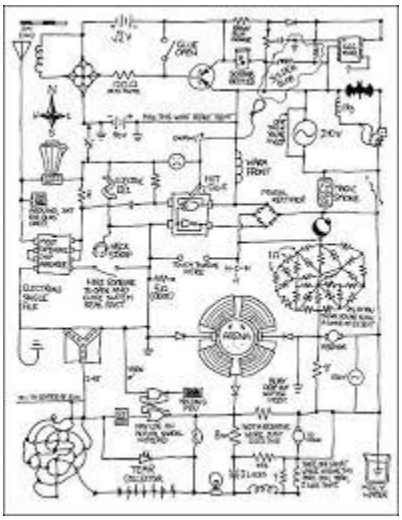


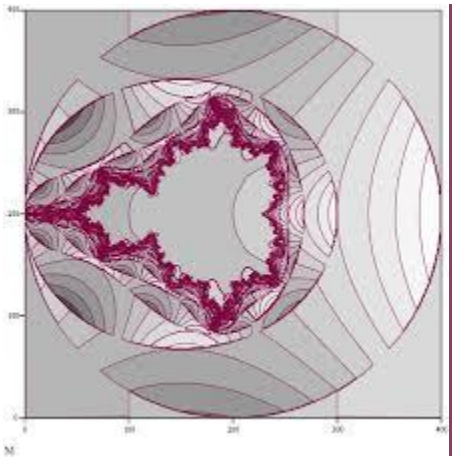


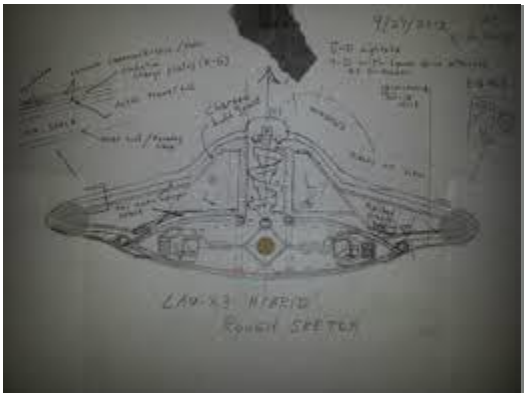


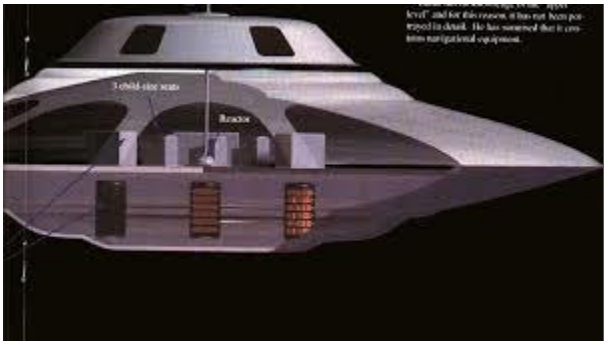

Geheim

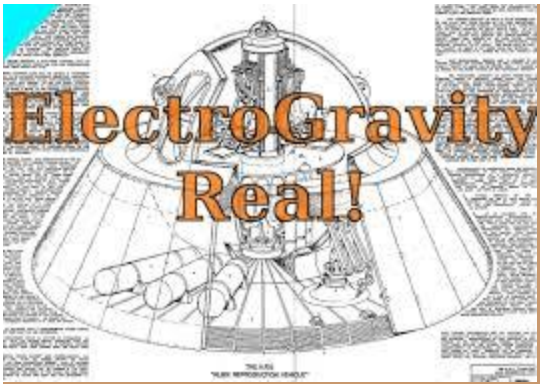

Has anyone ever done any research on what happens when we create a magnetic field and revolve it faster and faster?
No one realizes how everything changes in physics when velocities become extreme.

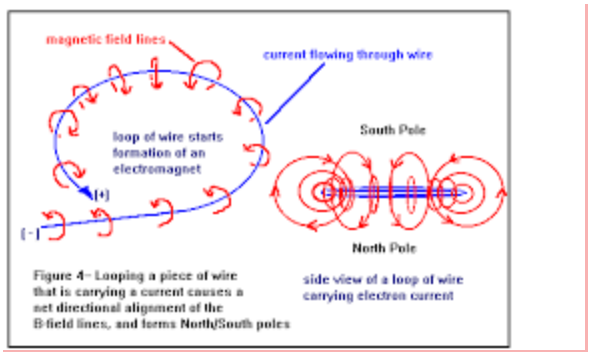


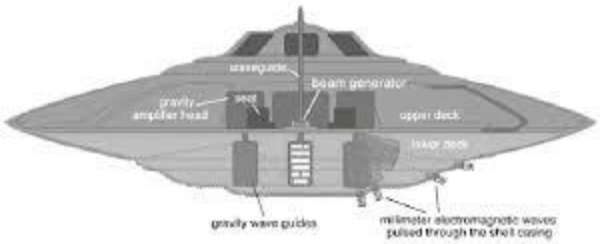


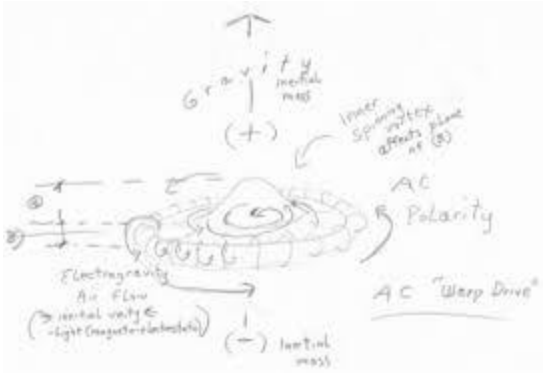


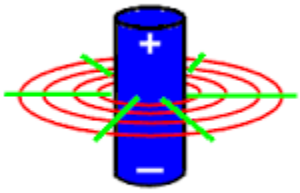


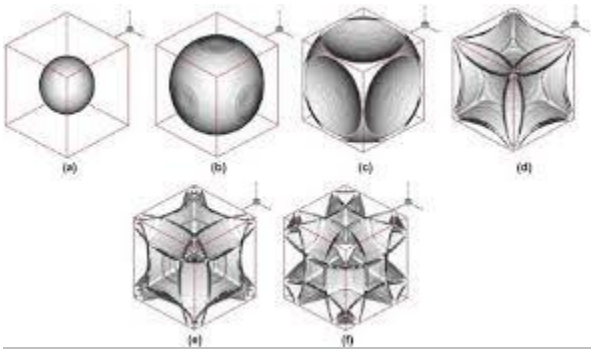

ElectroGravity
Real!

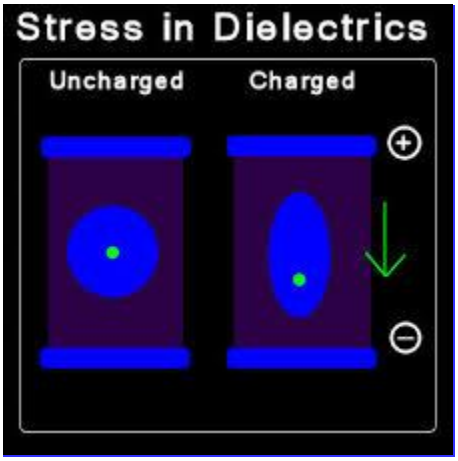

magnetic field lines
current flowing through wire
loop of wire starts formation of an electromagnet
South Pole
North Pole
Figure 4– Looping a piece of wire that is carrying a current causes a net directional alignment of the B-field lines, and forms North/South poles
side view of a loop of wire carrying electron current

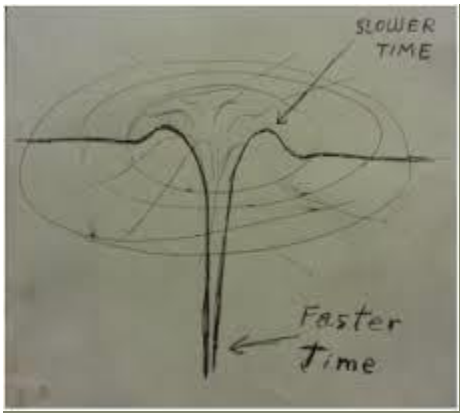

waveguide
Beam generator
gravity amplifier head
seat
upper deck
lower deck
gravity wave guides
millimeter electromagnetic waves pulsed through the shell casing

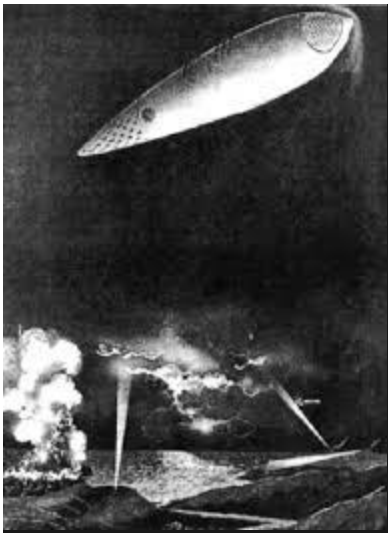

Gravity
inertial mass
(+)
AC
Polarity
Electrogravity
Air Flow
AC "Warp Drive"
(−) Inertial mass


+
−


(a)
(b)
(c)
(d)
(e)
(f)

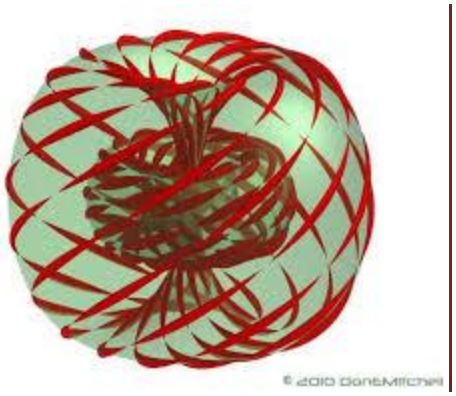

Stress in Dielectrics
Uncharged
Charged
+
−


SLOWER TIME
Faster Time

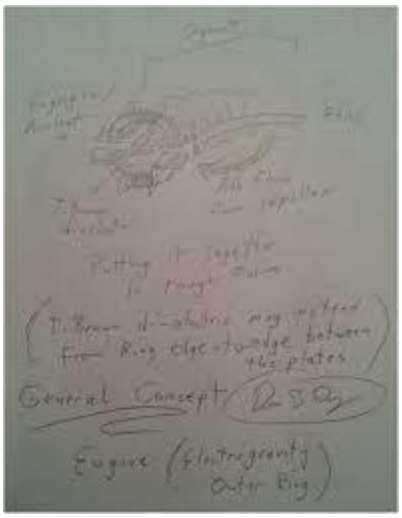


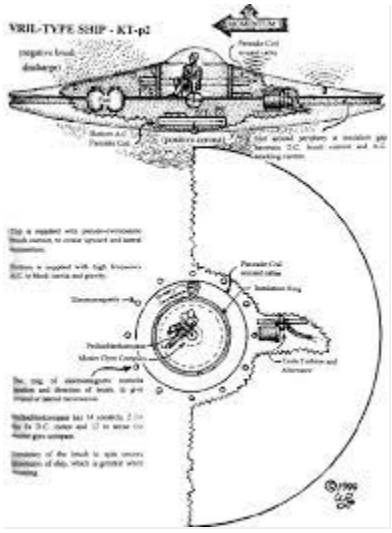


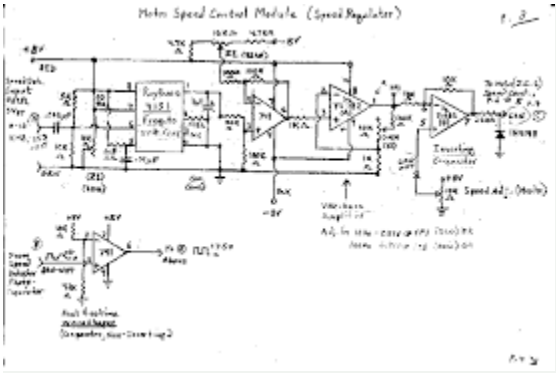




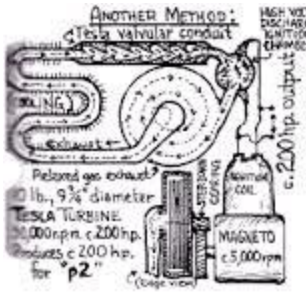










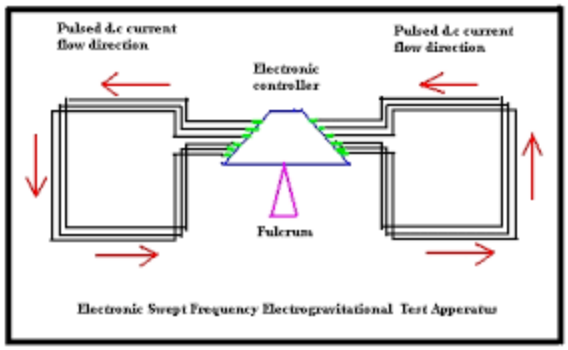


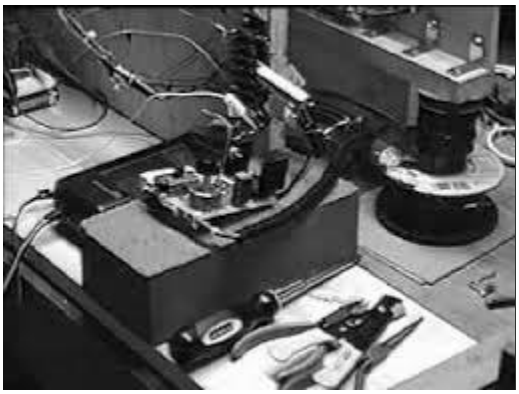
THE HELIUM REACTION:

The He is excited by electron bombardment (electrical discharge from a Van de Graaff). This may also be produced in the trigatron. The helium unpairs its electrons, promotes one electron to the 2s state, and releases 460 Kcal/g-atom (roughly equivalent to the energy in 460 loaves of bread from each g-atom of helium, more than enough energy to run a freight train).

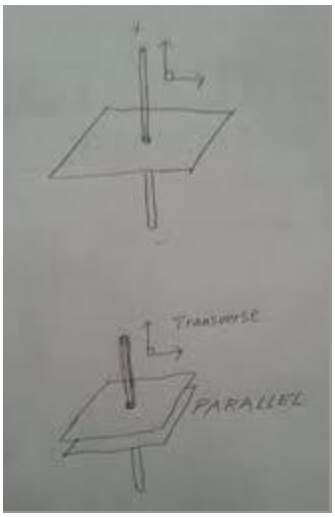
As for the question of whether or not Germany could have obtained helium, read Charles Bigham's *Trading With the Enemy*. Otherwise, helium can be artificially produced by bombardment of Li or boron by high velocity photons or alpha rays. A Tesla bath would do fine. Actually, bombardment of any element below At. No. 19 with a Tesla bath will produce helium.

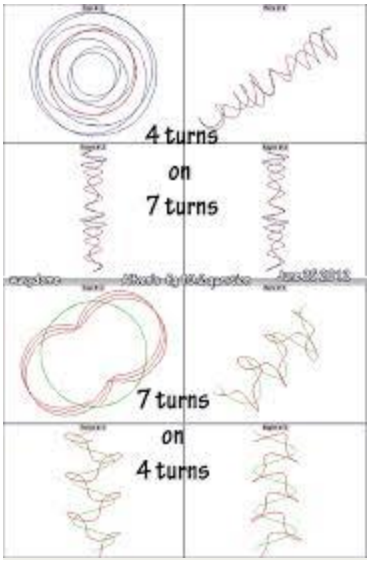
Trogitrons used in German ships fed with helium, as proposed the propulsive electrical discharges is likely, since I have found so many trigatrons related to flying saucer salvage, and that kind of power produced at the place of usage (the surface of the ships) would explain the brightness of the discharges.

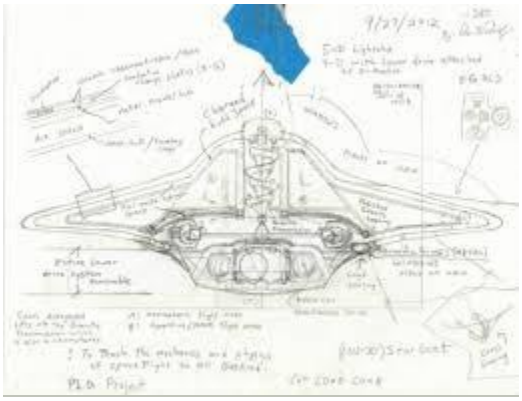

Pulsed d.c current flow direction
Pulsed d.c current flow direction
Electronic controller
Fulcrum
Electronic Swept Frequency Electrogravitational Test Apperatus

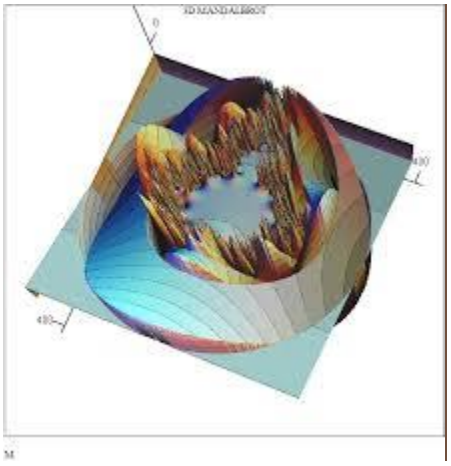





TRANSVERSE
PARALLEL

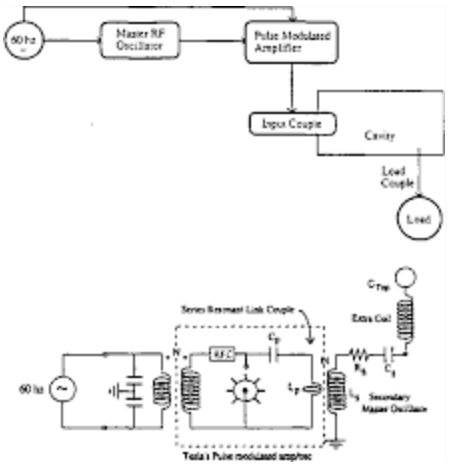

4 turns
on
7 turns
7 turns
on
4 turns

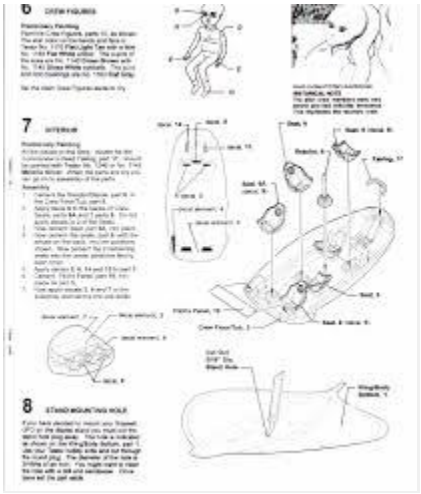



ED MANDARBOT


8th International Knowledge Seekers Workshop Feb 23 2016



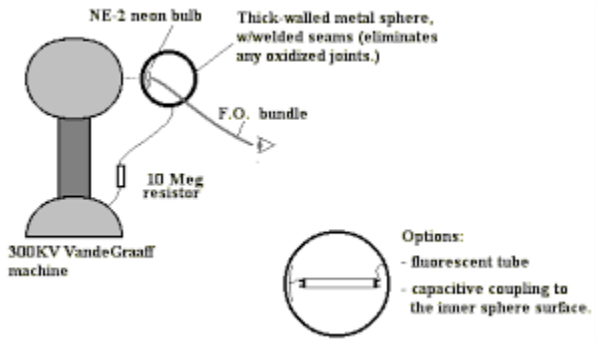

60 hz
Master RF Oscillator
Pulse Modulated Amplifier
Input Couple
Cavity
Load Couple
Load
Series Resonant Link Couple
Extra Coil
60 hz
Secondary Master Oscillator



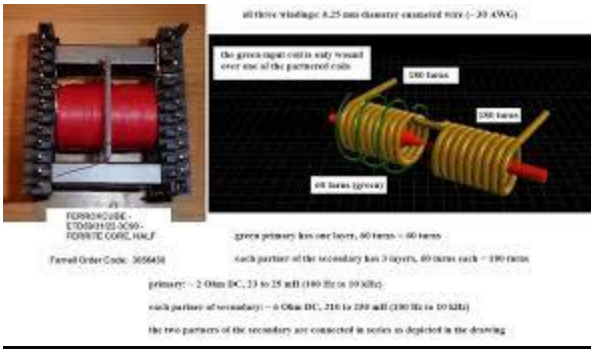


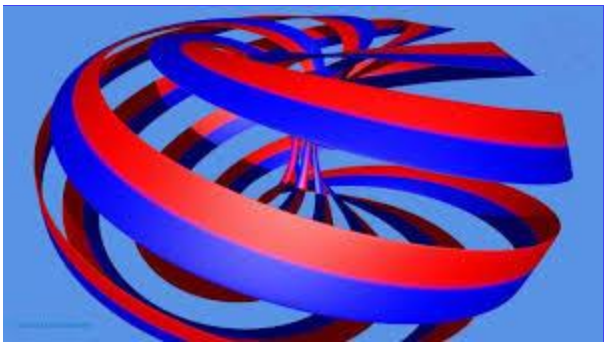





NE-2 neon bulb
Thick-walled metal sphere, w/welded seams (eliminates any oxidized joints.)
F.O. bundle
10 Meg resistor
300KV VandeGraaff machine
Options:
- fluorescent tube
- capacitive coupling to the inner sphere surface.

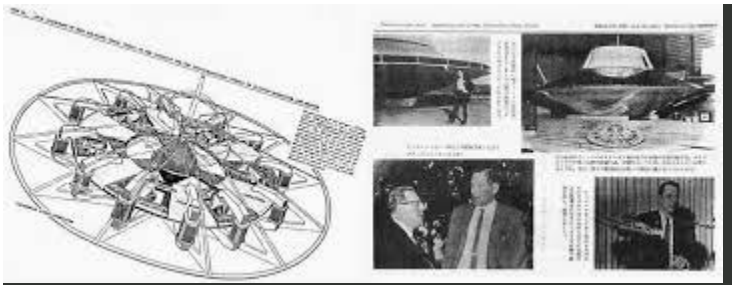


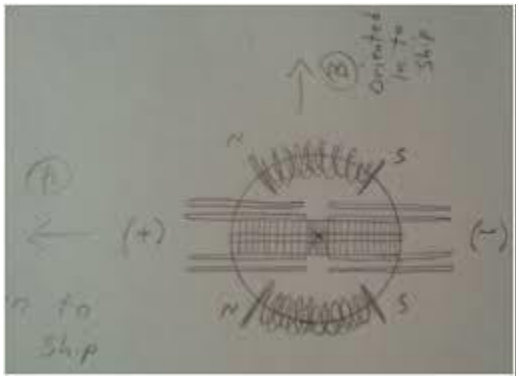

all three windings: 0.25 mm diameter enameled wire (~ 30 AWG)
the green input coil is only wound over one of the partnered coils
200 turns
200 turns
60 turns (green)
FERROXCUBE - E70/33/13/3C90 - FERRITE CORE, HALF
Farnell Order Code: 3656458
green primary has one layer, 60 turns = 60 turns
each partner of the secondary has 3 layers, 80 turns each = 190 turns
primary: ~ 2 Ohm DC, 23 to 25 mH (100 Hz to 10 kHz)
each partner of secondary: ~ 6 Ohm DC, 210 to 230 mH (100 Hz to 10 kHz)
the two partners of the secondary are connected in series as depicted in the drawing

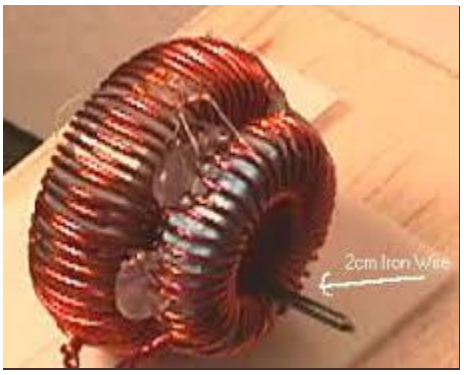


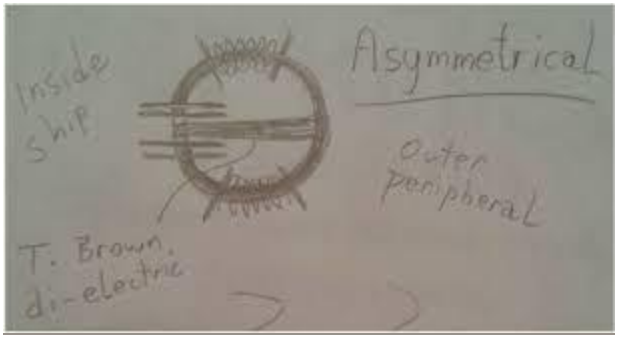

OVAL TECH



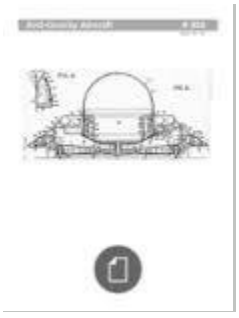



(+)
(-)
S
N
S
to
Ship


2cm Iron Wire


Inside
Ship
Asymmetrical
Outer
Peripheral
T. Brown.
di-electric







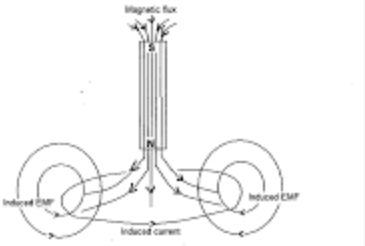


Fig-3: Faraday's law of Induced EMF

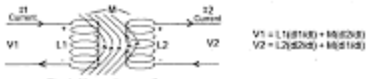
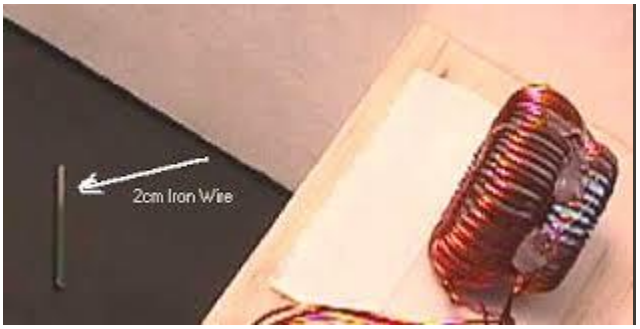
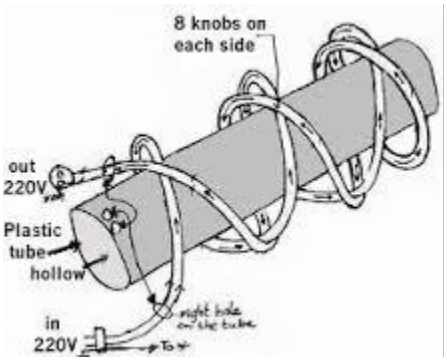


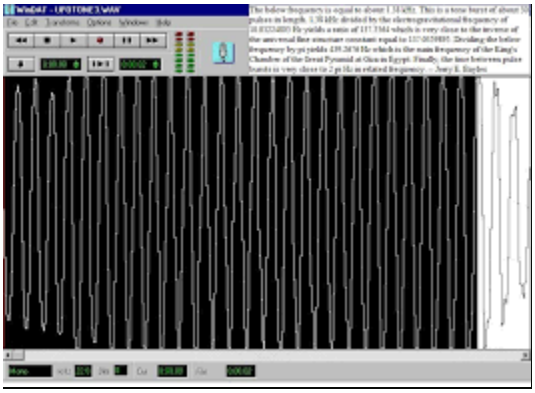
Fig-4: Magnetic coupling











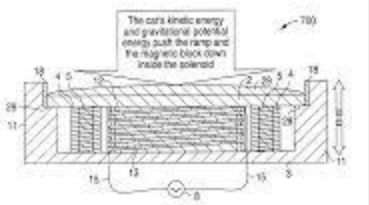


FIG. 8

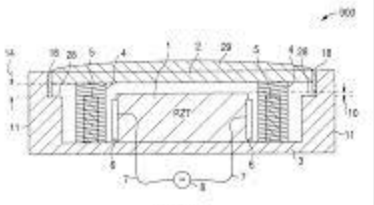
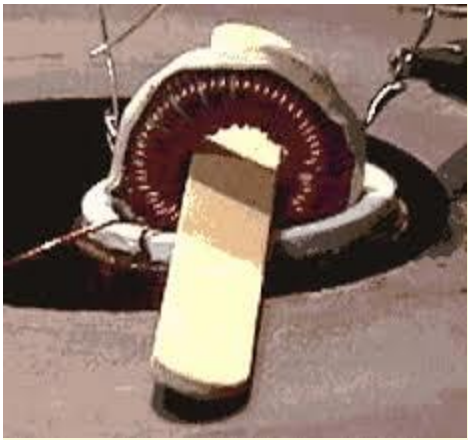
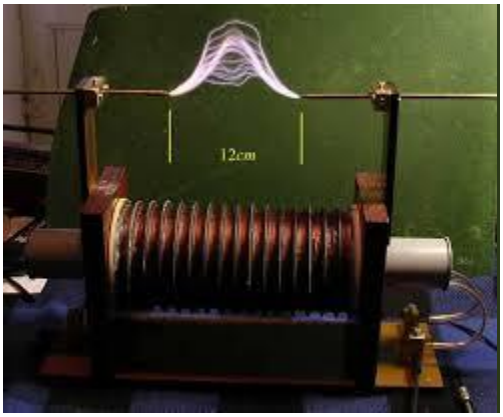


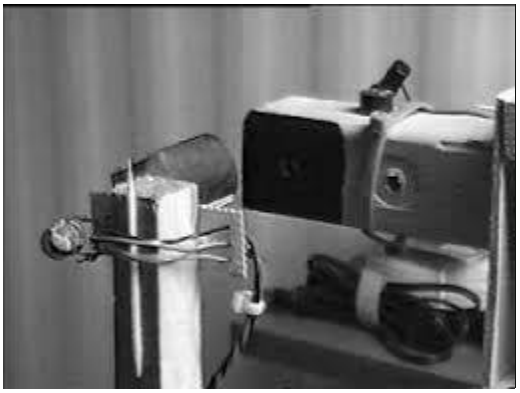
FIG. 9





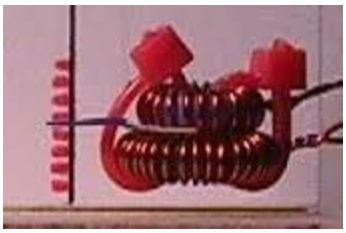


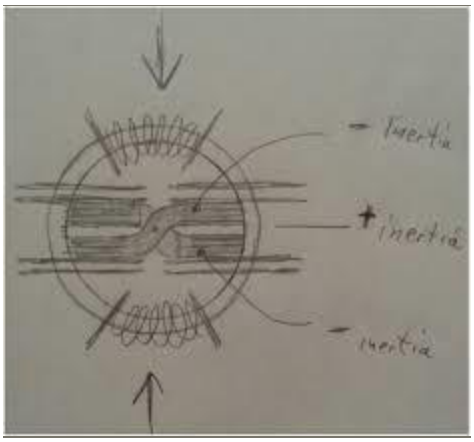

12cm

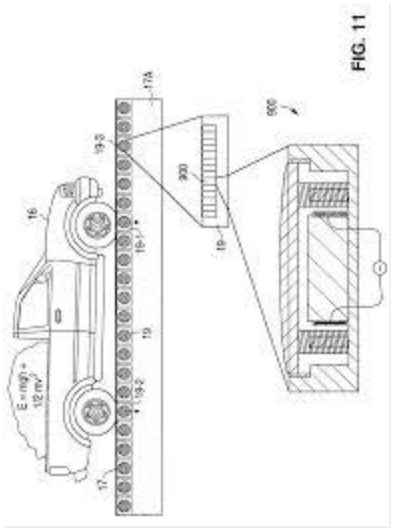




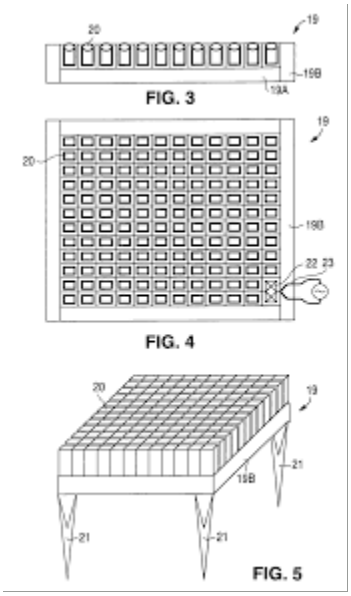

00019888

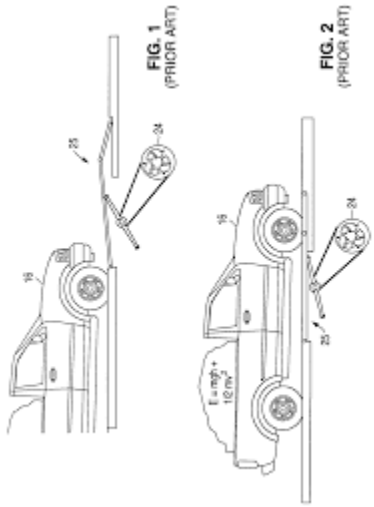



- Inertia
+ Inertia
- Inertia

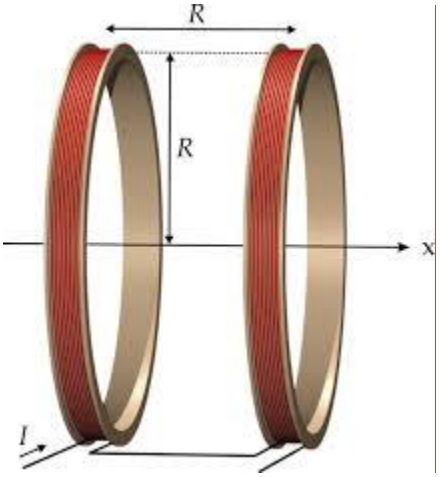

FIG. 11

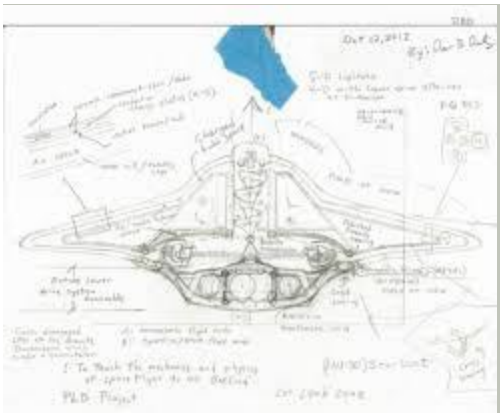

Electrogravity

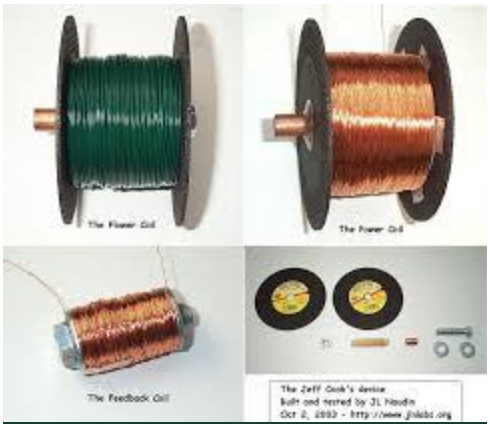

FIG. 3
FIG. 4
FIG. 5

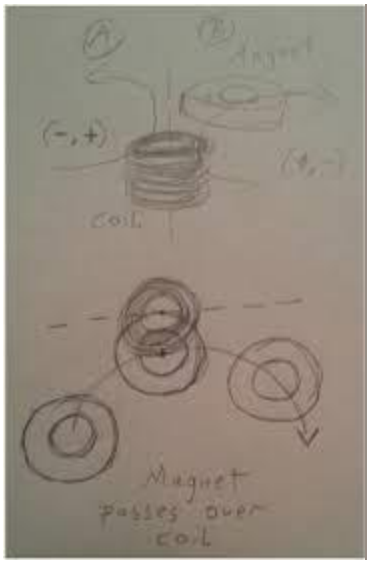

FIG. 1
(PRIOR ART)
FIG. 2
(PRIOR ART)

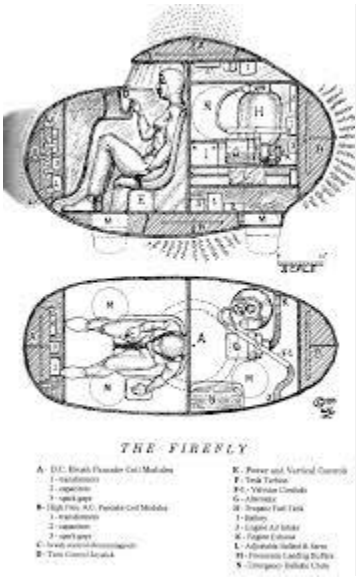


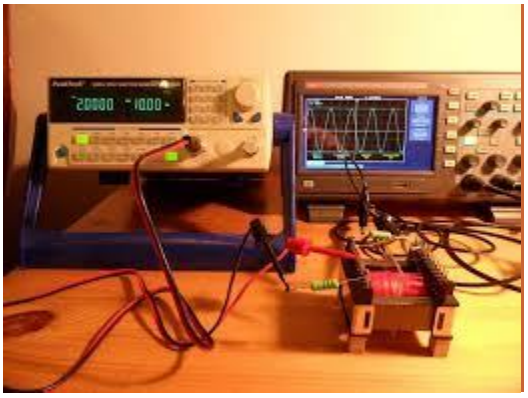

R
R
x
I

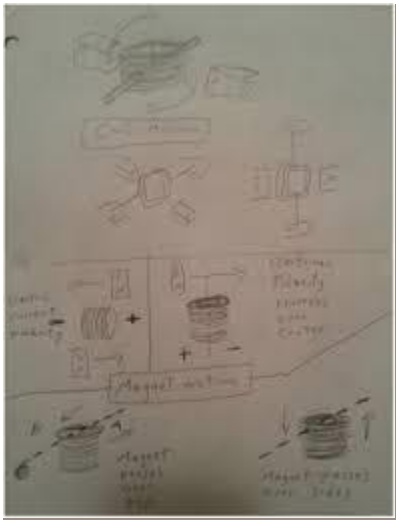


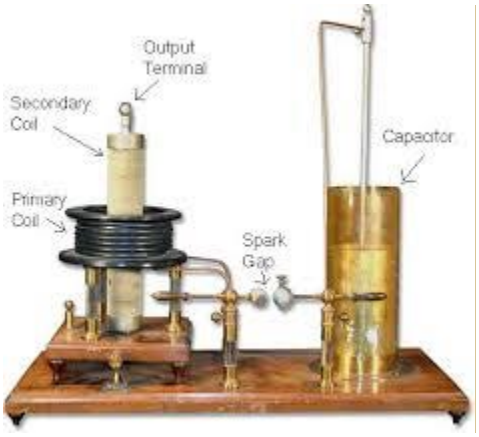

The Power Coil
The Power Coil
The Feedback Coil
The Zeff Cook's device
Built and tested by JL Naudin
Oct 2, 2003 - http://www.jlnlabs.org

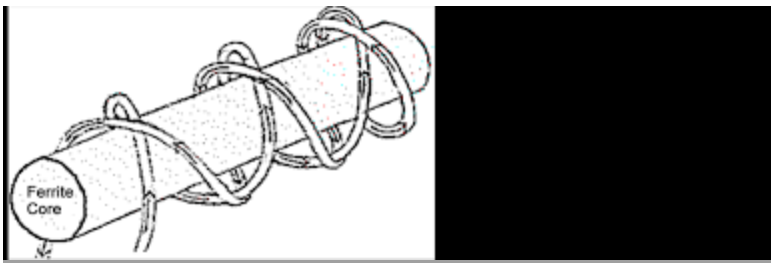

(-,+)
Coil
Magnet
passes over
Coil

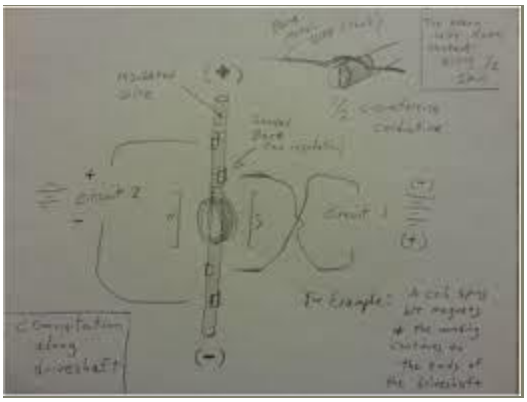

THE FIREFLY

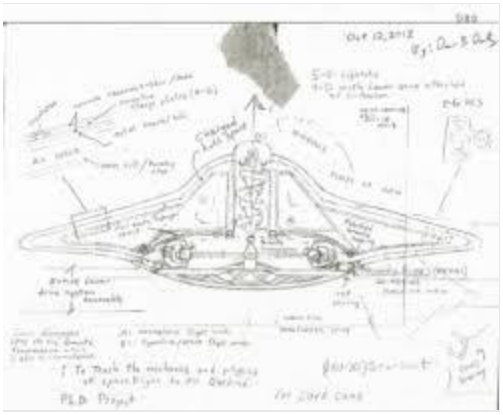

20000
1000



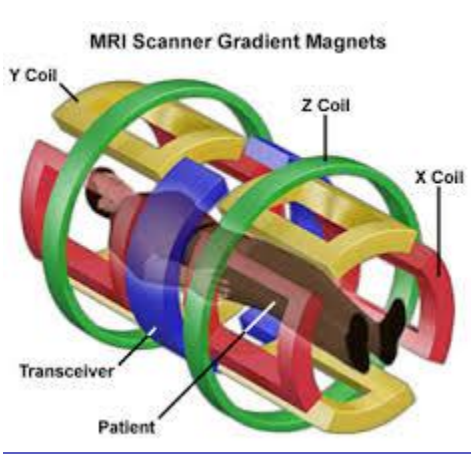

Output
Terminal
Secondary
Coil
Capacitor
Primary
Coil
Spark
Gap

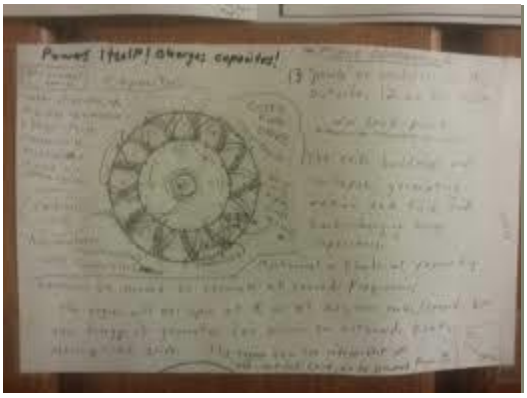

Ferrite
Core



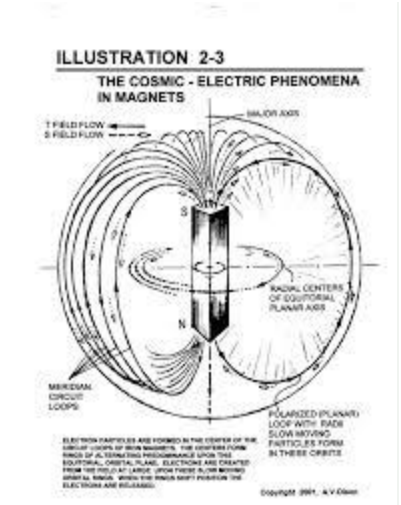




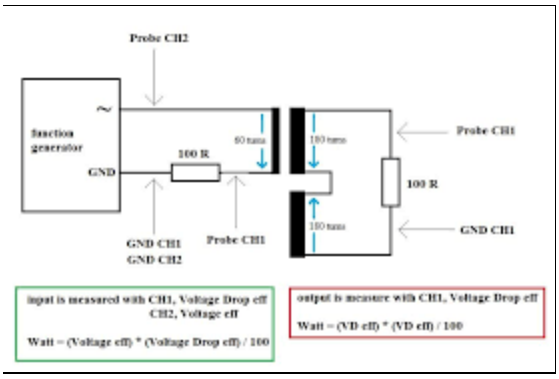

MRI Scanner Gradient Magnets
Y Coil
Z Coil
X Coil
Transceiver
Patient

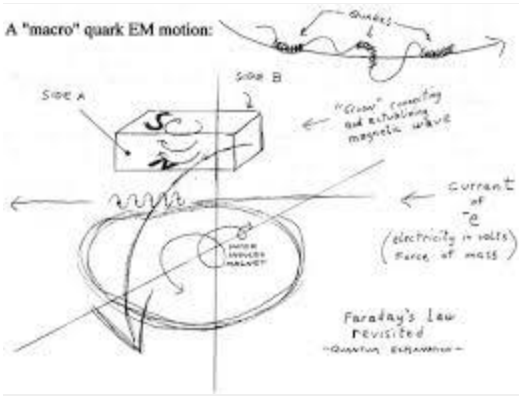


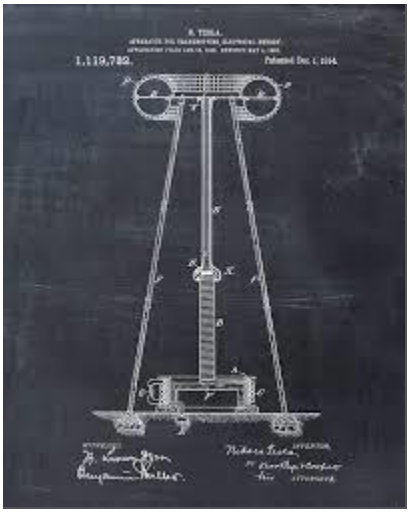


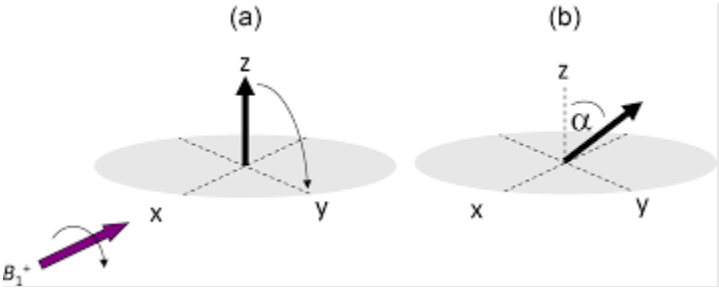

ILLUSTRATION 2-3
THE COSMIC - ELECTRIC PHENOMENA IN MAGNETS
MAJOR AXIS
T FIELD FLOW
S FIELD FLOW
S
N
RADIAL CENTERS OF EQUITORIAL PLANAR AXIS
MERIDIAN CIRCUIT LOOPS
POLARIZED (PLANAR) LOOP WITH RADII SLOW MOVING PARTICLES FORM IN THESE ORBITS

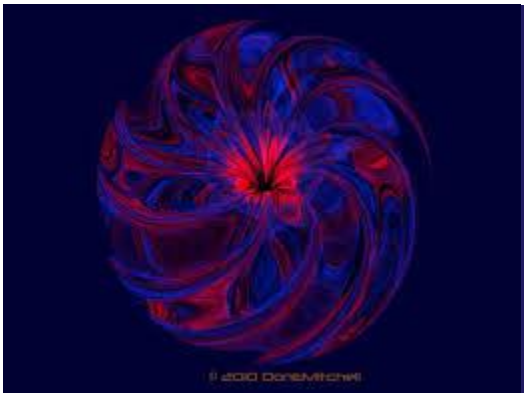


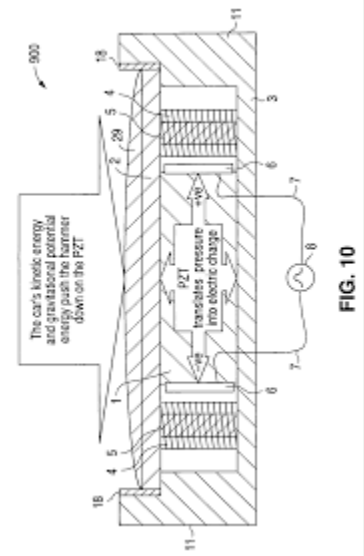

Probe CH2
function generator
GND
100 R
60 turns
180 turns
Probe CH1
100 R
GND CH1
GND CH2
Probe CH1
GND CH1
input is measured with CH1, Voltage Drop eff CH2, Voltage eff
Watt = (Voltage eff) * (Voltage Drop eff) / 100
output is measure with CH1, Voltage Drop eff
Watt = (VD eff) * (VD eff) / 100


A "macro" quark EM motion:
Quarks
SIDE A
SIDE B
"Glow" connecting and exhibiting magnetic wave
Current of "e"
(electricity in volts)
Force of mass
Faraday's Law revisited

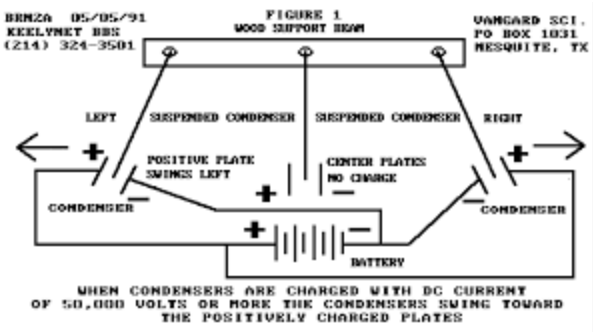

1,119,732.


(a)
(b)
z
x
y
α
B_1^+




900
11
18
4
5
29
2
3
6
7
8
PZT
translates pressure into electric charge
The car's kinetic energy and gravitational potential energy push the hammer down on the PZT
1
4
5
18
11
FIG. 10



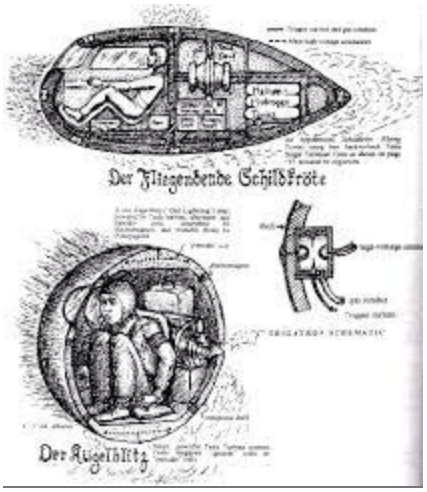

BRNZA 05/05/91
KEELYNET BBS
(214) 324-3501
FIGURE 1
WOOD SUPPORT BEAM
VANGARD SCI.
PO BOX 1031
MESQUITE, TX
LEFT
SUSPENDED CONDENSER
SUSPENDED CONDENSER
RIGHT
POSITIVE PLATE SWINGS LEFT
CENTER PLATES NO CHANGE
CONDENSER
CONDENSER
BATTERY
WHEN CONDENSERS ARE CHARGED WITH DC CURRENT OF 50,000 VOLTS OR MORE THE CONDENSERS SWING TOWARD THE POSITIVELY CHARGED PLATES

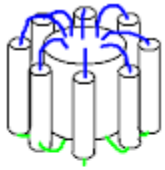
ELECTRONEGATIVITY EFFECTS :-

- The chemical shift simply increase as the electronegativity of the attached element increases.
- Following table illustrates this relationship for several compounds of the type CH_3X.

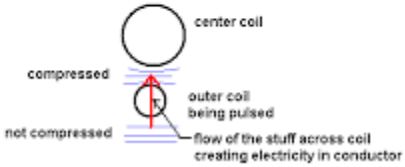
DEPENDENCE OF THE CHEMICAL SHIFT OF CH_3X ON THE ELEMENT X

Compound CH_3X	CH_3F	CH_3OH	CH_3Cl	CH_3Br	CH_3I	CH_4	$(CH_3)_4Si$
Element X	F	O	Cl	Br	I	H	Si
Electronegativity of X	4.0	3.5	3.1	2.8	2.5	2.1	1.8
Chemical shift δ	4.26	3.40	3.05	2.68	2.16	0.23	0



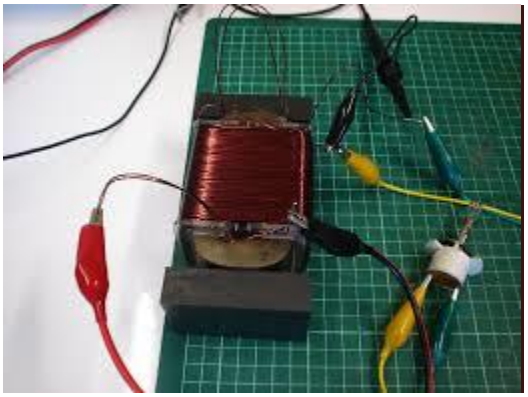


magnetic cage
center coil opposite to outer coils



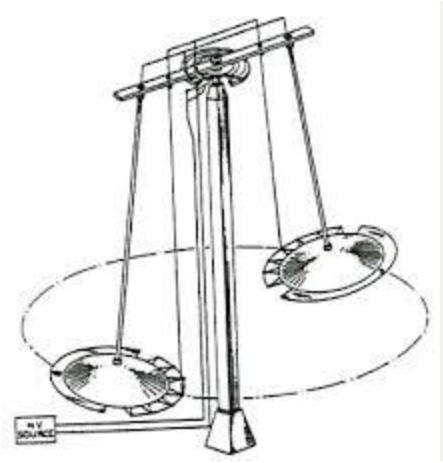


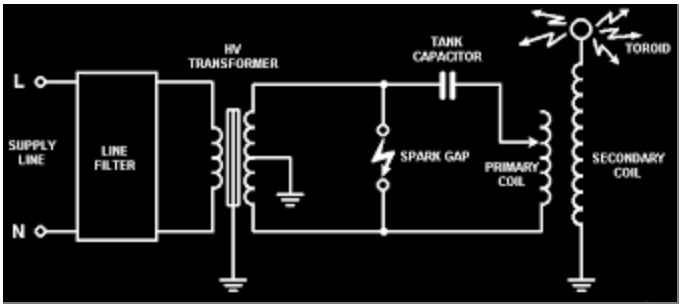
$$z_{i,j} := \left| \begin{array}{l} z_{i,j} \leftarrow 0 \\ N \leftarrow 0 \\ \text{while } N < \text{ittr} \\ \quad \left| \begin{array}{l} N \leftarrow N + 1 \\ \text{continue if } |z_{i,j}| > 2 \\ z_{i,j} \leftarrow (z_{i,j})^2 + C_{i,j} \\ N \leftarrow 0 \text{ if } |z_{i,j}| > 2 \end{array} \right. \\ z_{i,j} \end{array} \right.$$

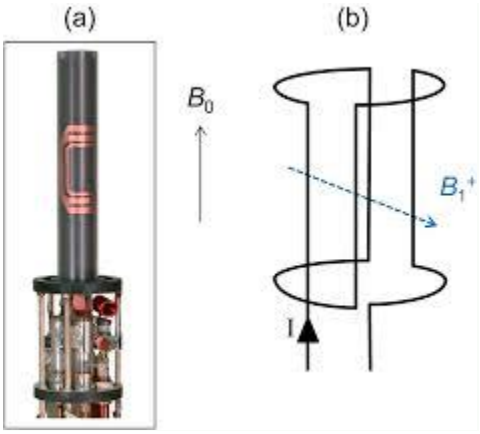




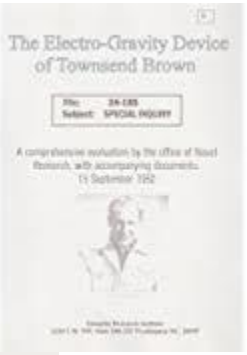



HV SOURCE


HV TRANSFORMER
TANK CAPACITOR
TOROID
L
SUPPLY LINE
LINE FILTER
SPARK GAP
PRIMARY COIL
SECONDARY COIL
N


(a)
(b)
B_0
B_1
I

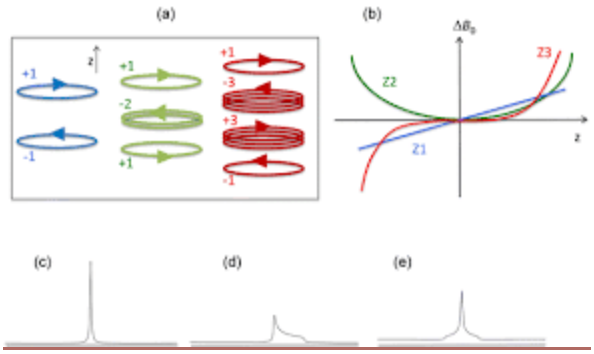



The Electro-Gravity Device of Townsend Brown

4 days ago

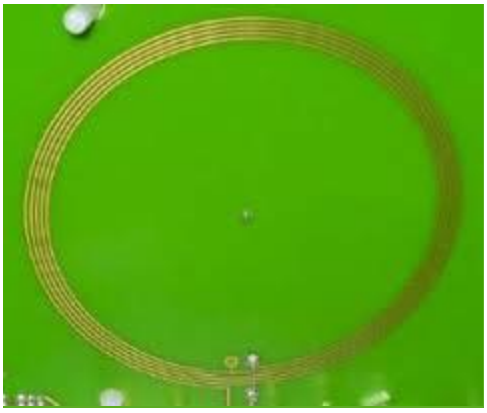

ON SCALAR WAVES
On Scalar Waves



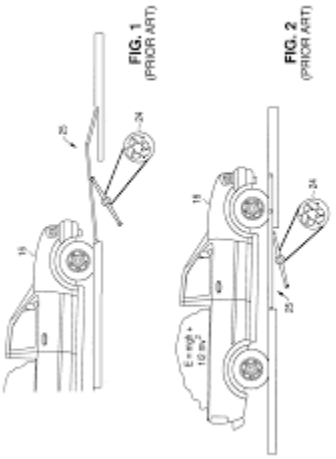

(a)
(b)
(c)
(d)
(e)
Z1
Z2
Z3

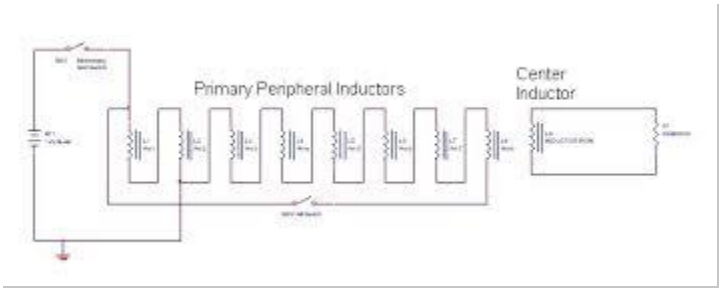

TEC

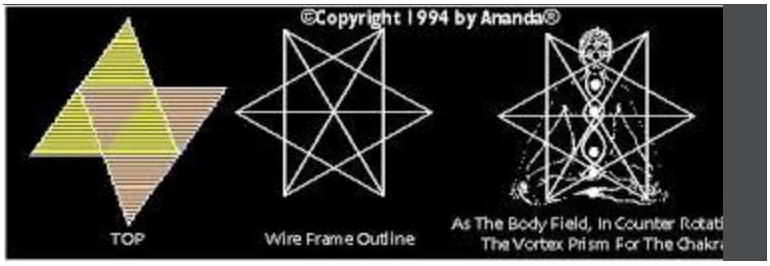

TESLA COILS
SERYUN
TÜRKİYENİN İLK TESLA BOBİNİ SİTESİ (c) 2007

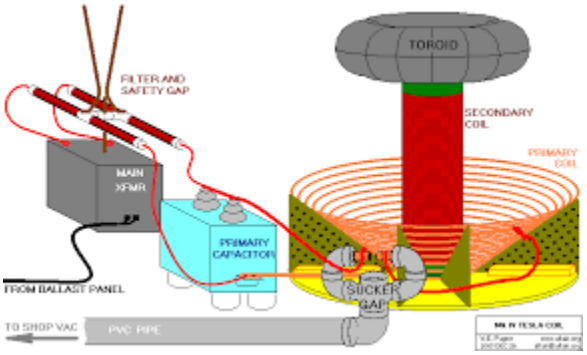


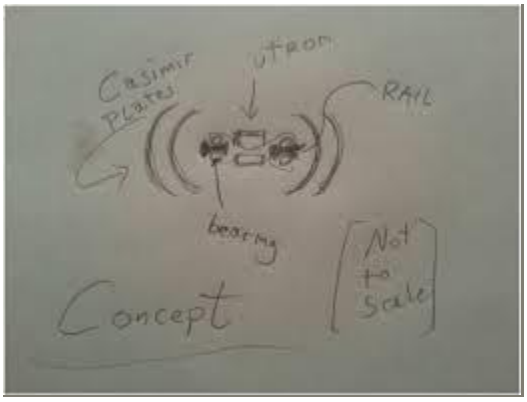

BIEFELD BROWN EFFECT PROPULSION 3a

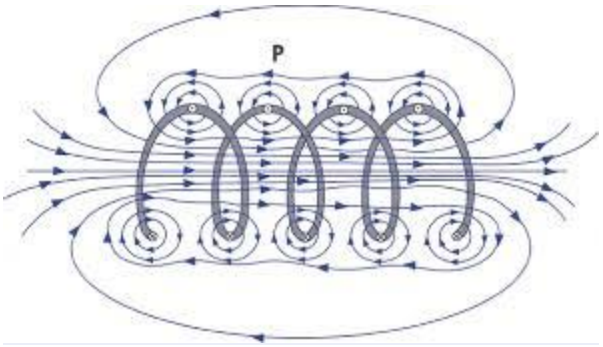

FIG. 1
(PRIOR ART)
FIG. 2
(PRIOR ART)

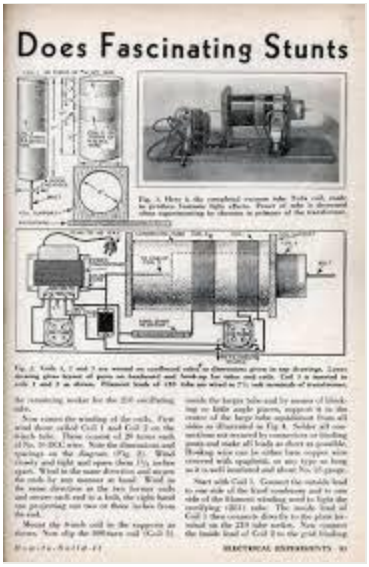

Primary Peripheral Inductors
Center
Inductor


©Copyright 1994 by Ananda®
TOP
Wire Frame Outline
As The Body Field, In Counter Rotati
The Vortex Prism For The Chakr


TOROID
FILTER AND
SAFETY GAP
SECONDARY
COIL
PRIMARY
COIL
MAIN
X-MR
PRIMARY
CAPACITOR
SPARK
GAP
FROM BALLAST PANEL
TO SHOP VAC
PVC PIPE


Casimir
Plates
utron
RAIL
bearing
Concept
Not
to
Scale


P





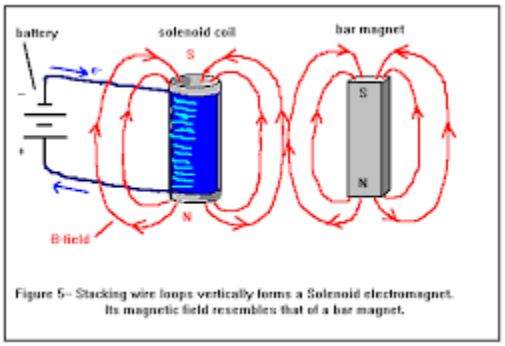
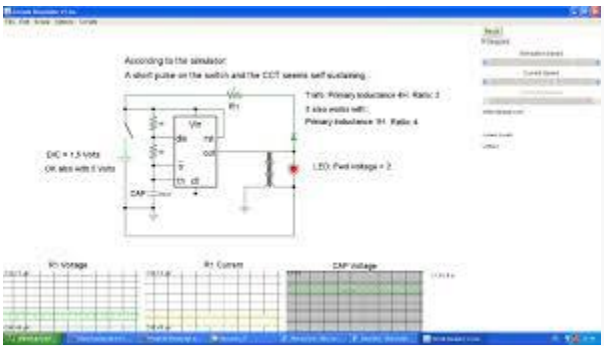


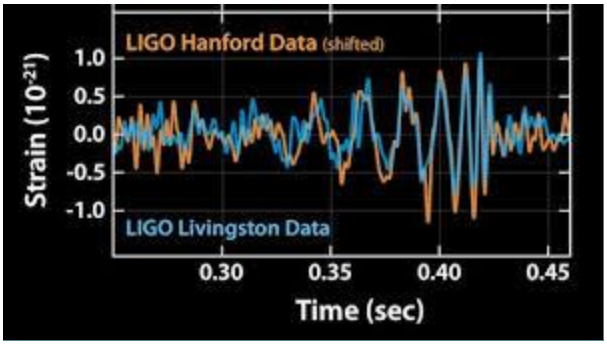
Figure 5– Stacking wire loops vertically forms a Solenoid electromagnet. Its magnetic field resembles that of a bar magnet.

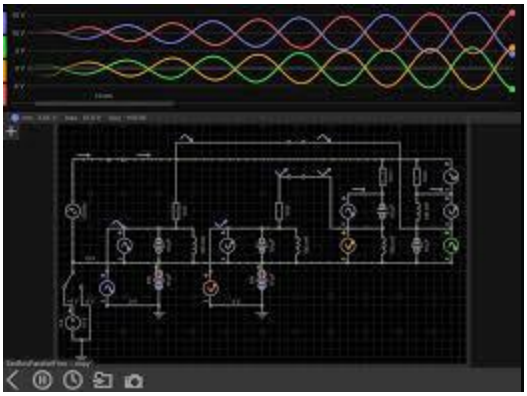


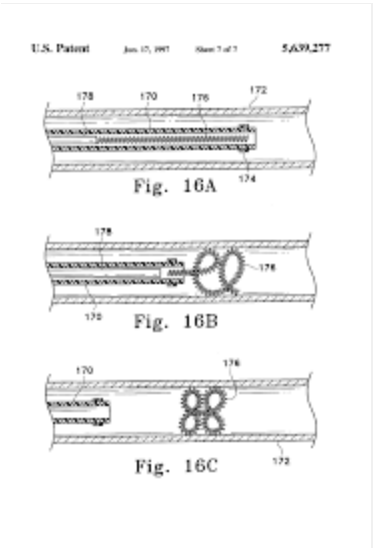




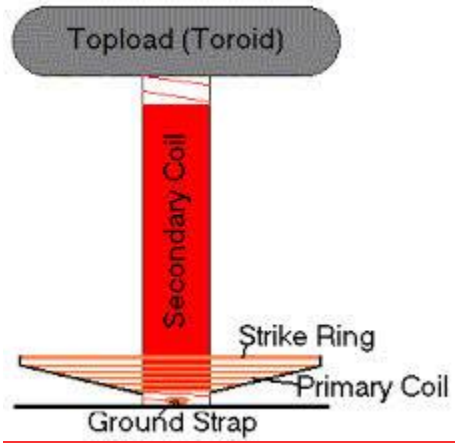




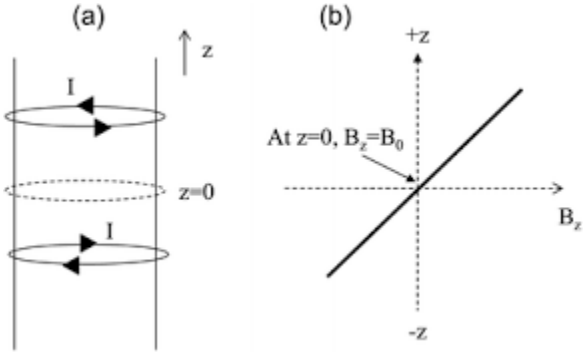


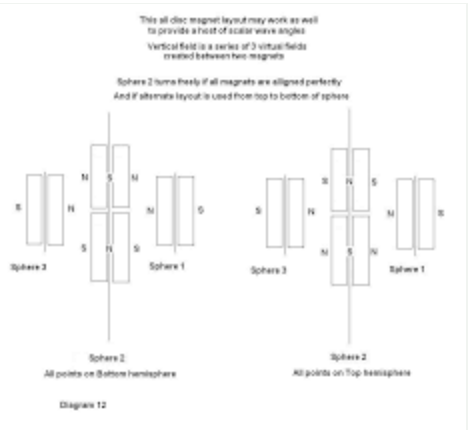

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5,639,277
Fig. 16A
Fig. 16B
Fig. 16C

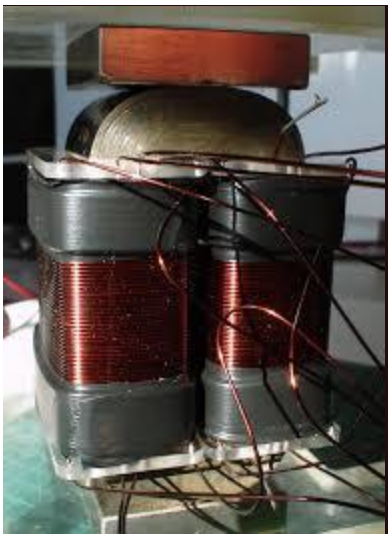

Zugkraft der Gravitation
Schubkraft der Strahlung
©Genius Verlag 2001

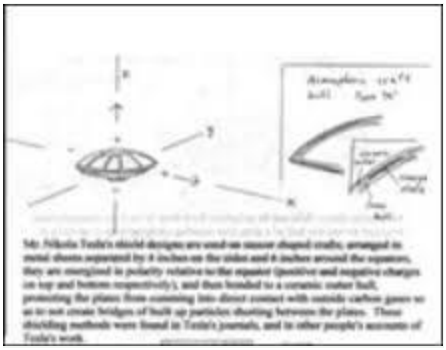

Toploak (Toroid)
Secondary Coil
Strike Ring
Primary Coil
Ground Strap




(a)
z
I
z=0
I
(b)
+z
At z=0, $B_z=B_0$
B_z
-z


This all disc magnet layout may work as well
to provide a host of scalar wave angles
Vertical field is a series of 3 virtual fields
created between two magnets
Sphere 2 turns freely if all magnets are aligned perfectly
And if alternate layout is used from top to bottom of sphere
Sphere 3
Sphere 1
Sphere 2
All points on Bottom hemisphere
Sphere 3
Sphere 1
Sphere 2
All points on Top hemisphere
Diagram 12

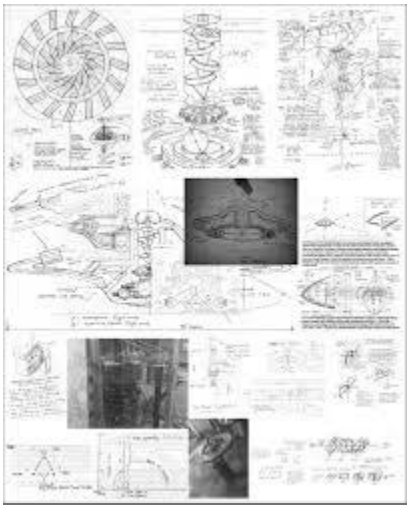






Spinning Rotor Emits Changing Corona Discharge in Fascinating Stunt







U.S. Patent

5,639,277

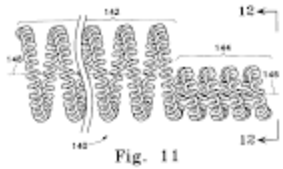


Fig. 11

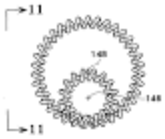
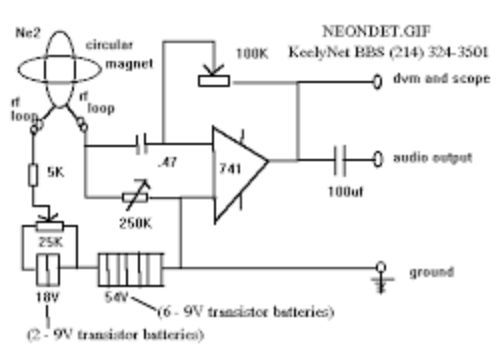
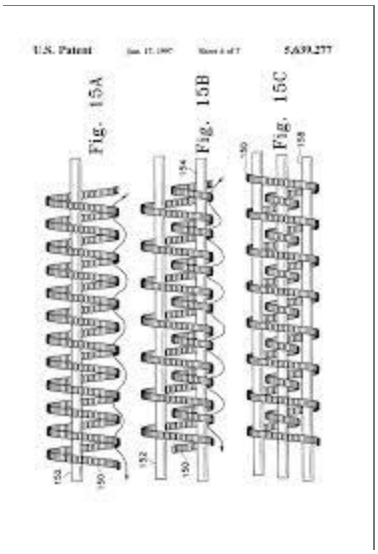


Fig. 12

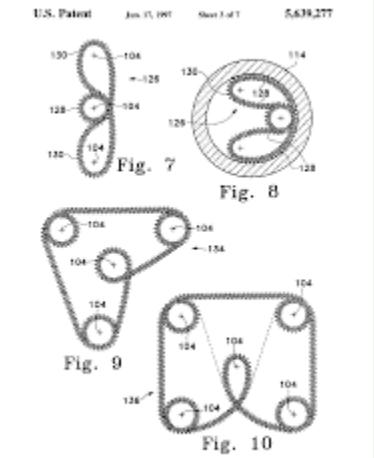

NEONDET.GIF
KeelyNet BBS (214) 324-3501
Ne2
circular magnet
rf loop
rf loop
100K
dvm and scope
audio output
5K
.47
741
100uf
250K
25K
ground
18V
54V
(6 - 9V transistor batteries)
(2 - 9V transistor batteries)

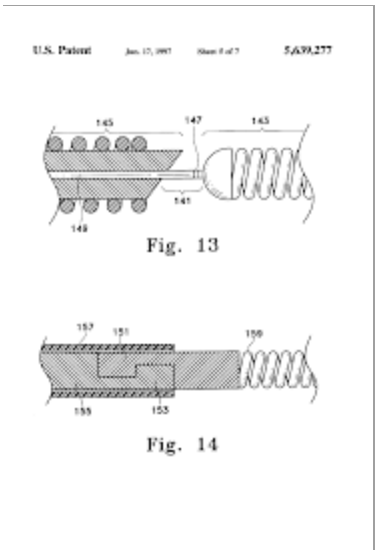


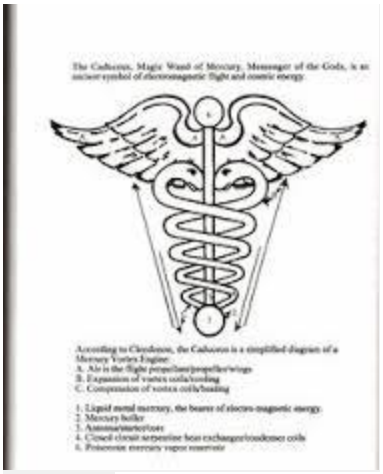



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5,639,277
Fig. 15A
Fig. 15B
Fig. 15C

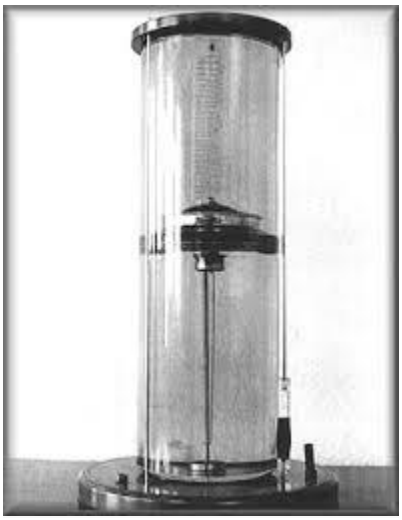

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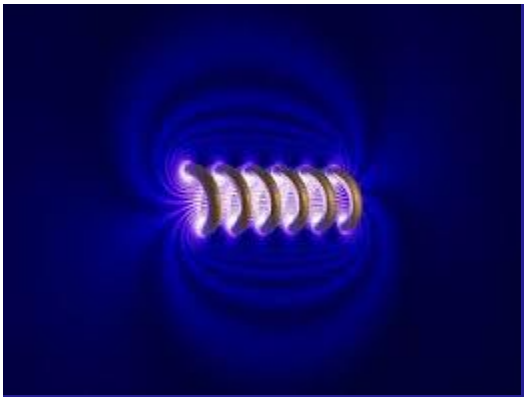

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5,639,277
Fig. 7
Fig. 8
Fig. 9
Fig. 10


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145
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143
141
149
Fig. 13
157
151
159
155
153
Fig. 14


The Caduceus, Magic Wand of Mercury, Messenger of the Gods, is an ancient symbol of electromagnetic flight and cosmic energy.
According to Cleodemus, the Caduceus is a simplified diagram of a Mercury Vortex Engine:
A. Ale is the 'flight propellant/propeller/wings
B. Expansion of vortex coils/cording
C. Compression of vortex coils/loading
1. Liquid metal mercury, the bearer of electro-magnetic energy.
2. Mercury boiler
3. Ammonia/starter/core
4. C'ouard circuit serpentine heat exchanger/condenser coils
5. Poisonous mercury vapor reservoir

5 days ago



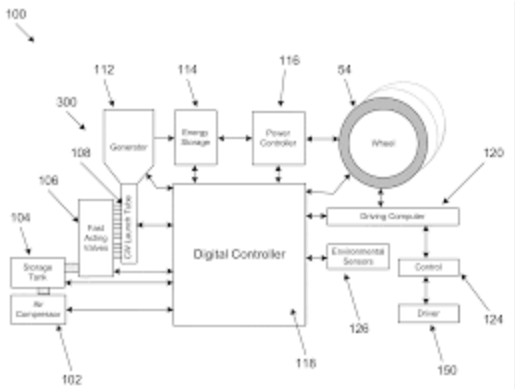






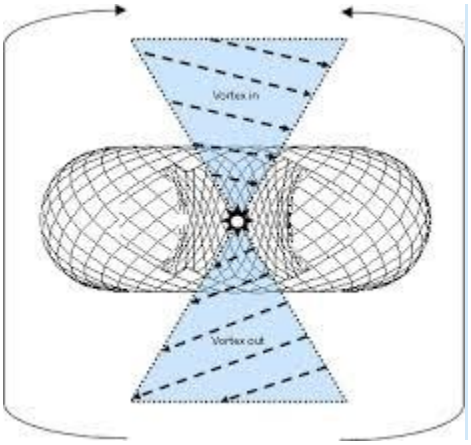


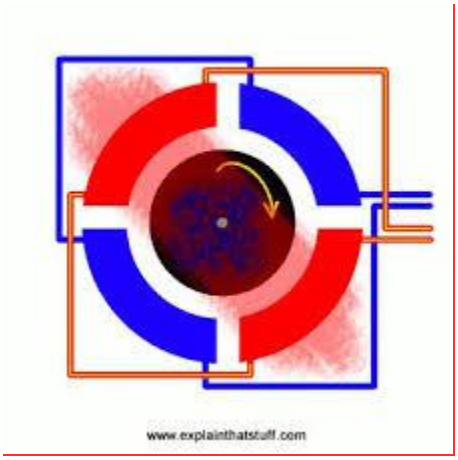

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100
112
114
116
54
300
108
106
104
120
Generator
Energy Storage
Power Controller
Wheel
Digital Controller
Driving Computer
Environmental Sensors
Control
Driver
Storage Tank
Air Compressor
Fluid Acting Valves
126
124
102
118
150



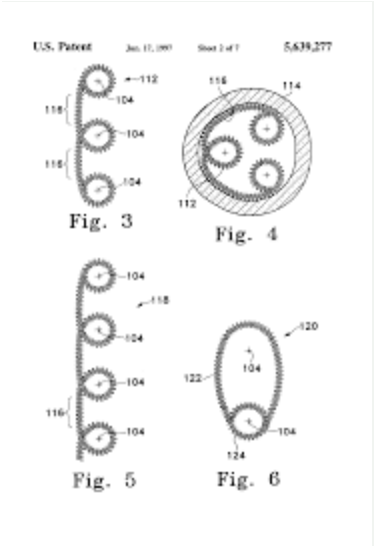



Vortex in
Vortex out


www.explainthatstuff.com

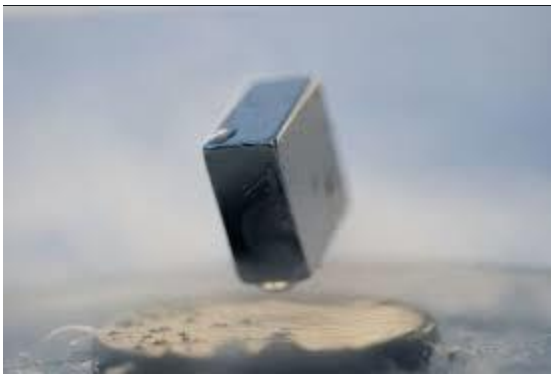

10 4 1995

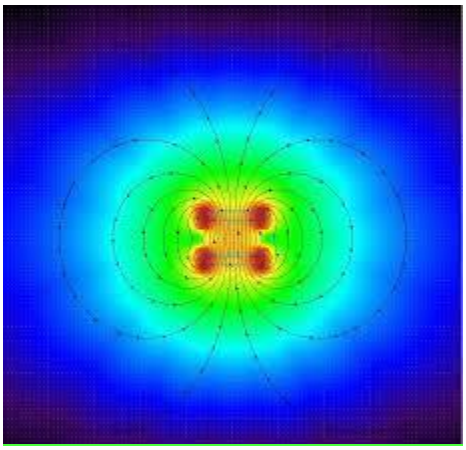


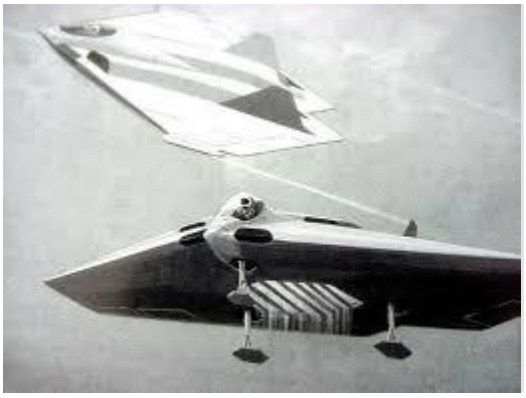

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5,639,277
112
104
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114
120
122
124
Fig. 3
Fig. 4
Fig. 5
Fig. 6

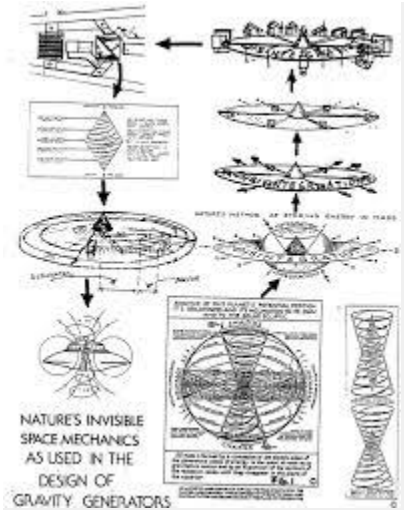
blue Nobel badge, issued to synchro1





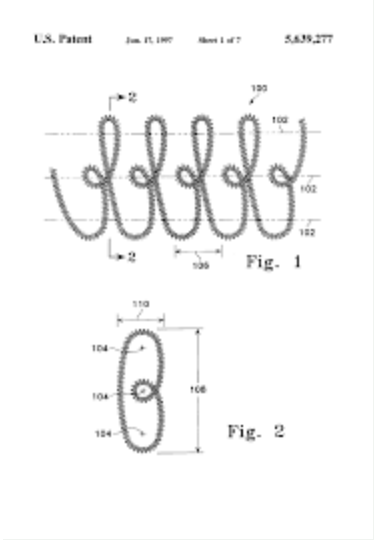




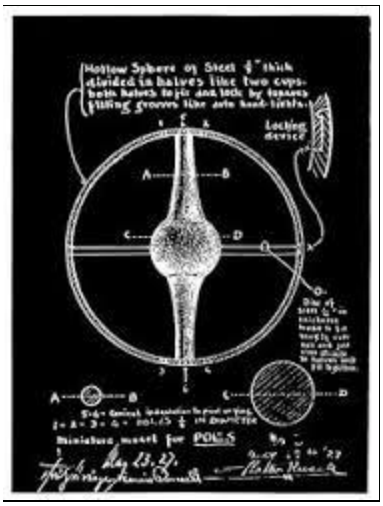












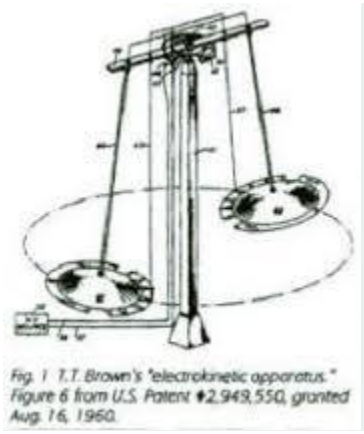
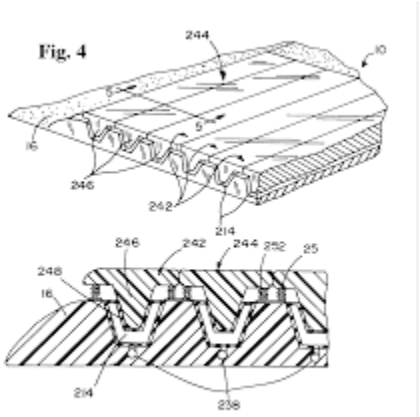
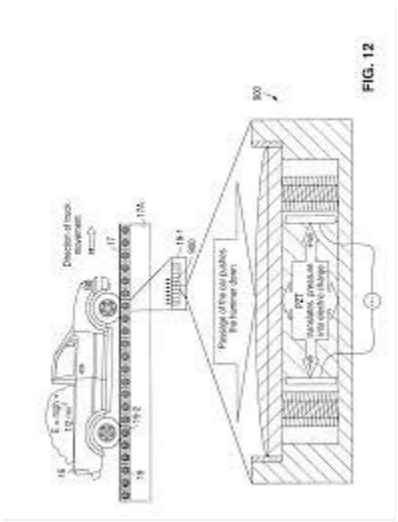
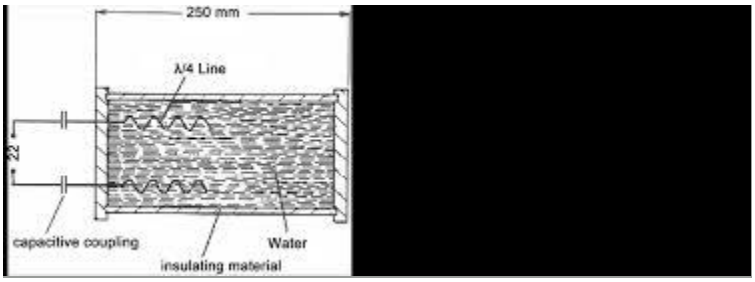
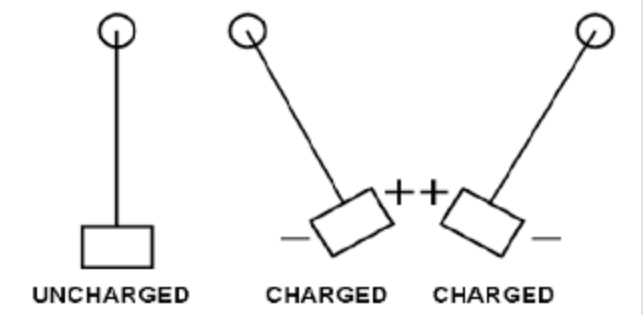


Fig. 1 T.T. Brown's "electrokinetic apparatus." Figure 6 from U.S. Patent #2,949,550, granted Aug. 16, 1960.

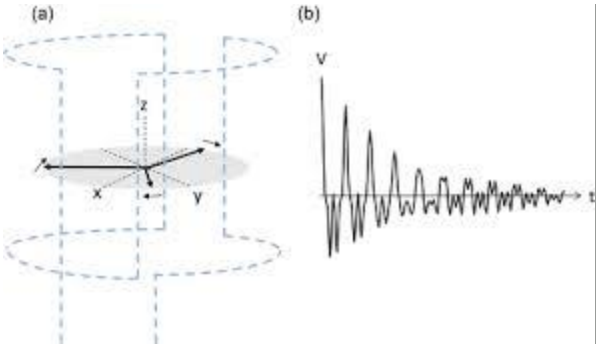


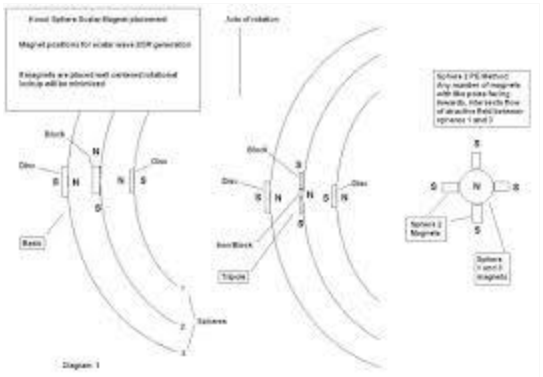


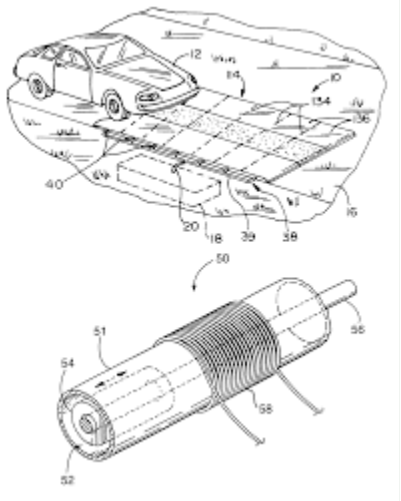


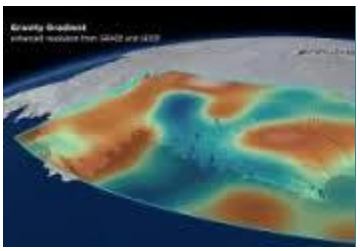


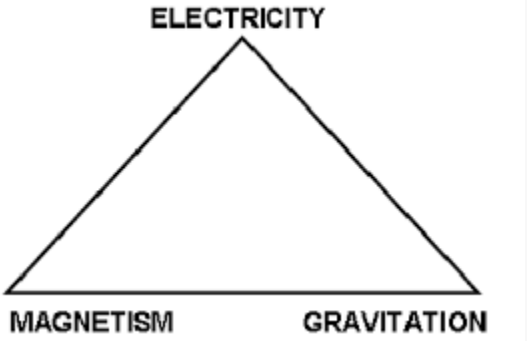


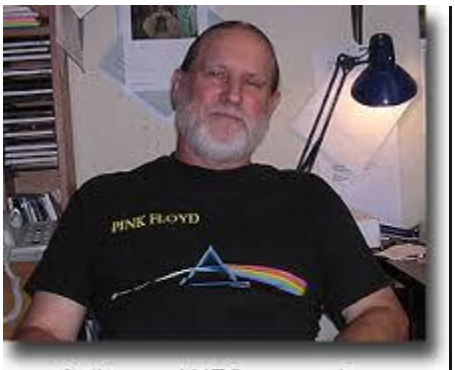








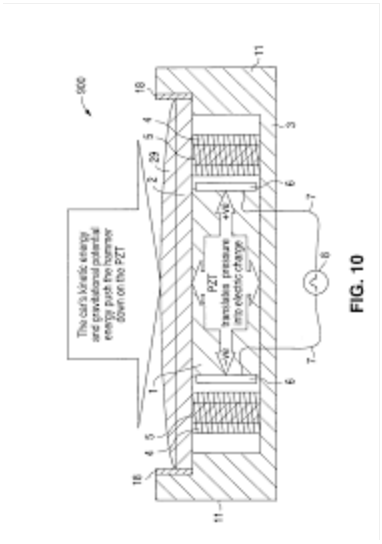




Author and UFO researcher
William Moore in his
Los Angeles office, October 2003







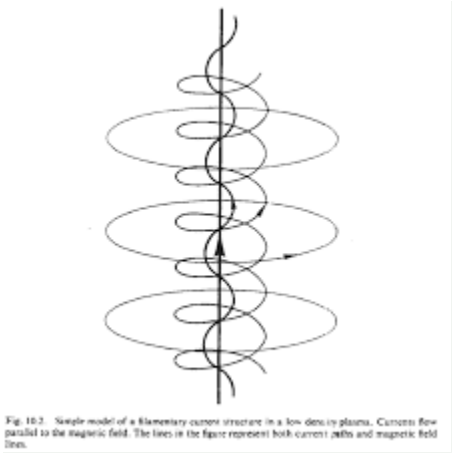
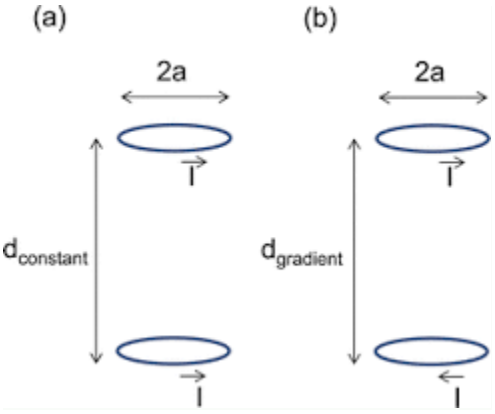
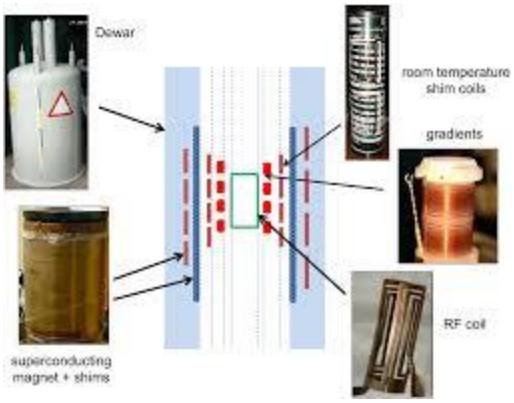
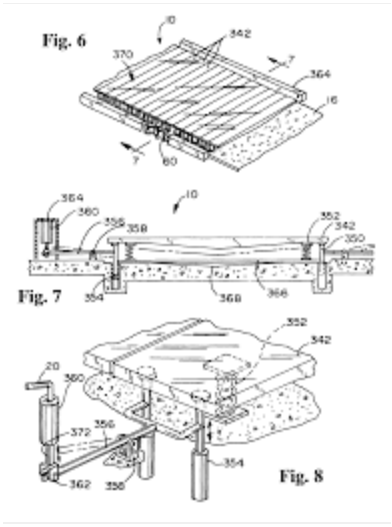
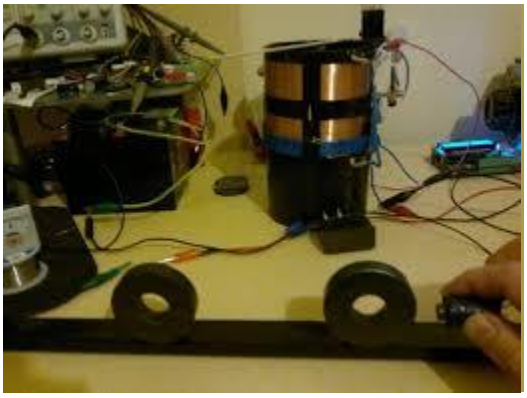


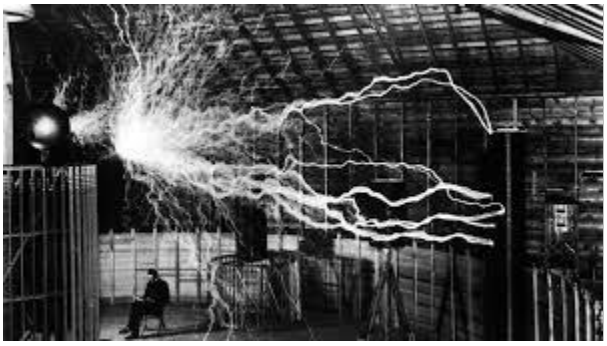
Fig. 10.2 Simple model of a filamentary current structure in a low density plasma. Currents flow parallel to the magnetic field. The lines in the figure represent both current paths and magnetic field lines.

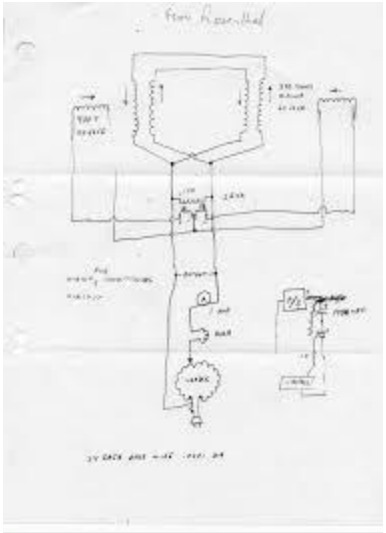


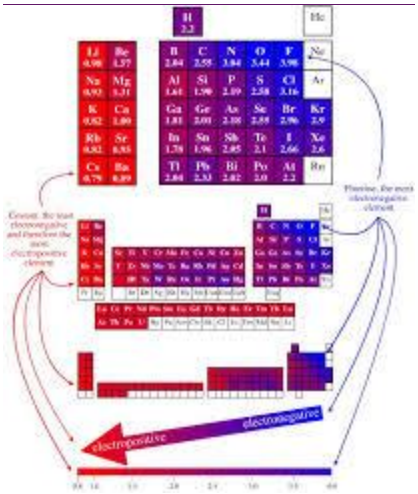




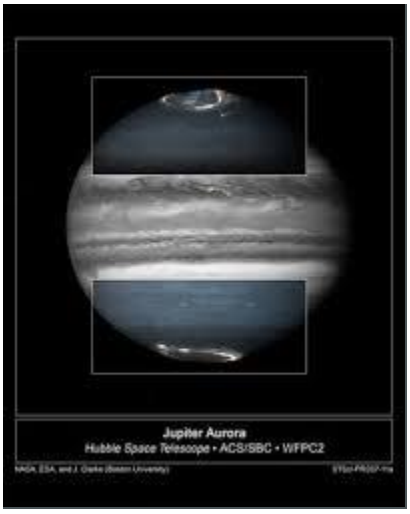


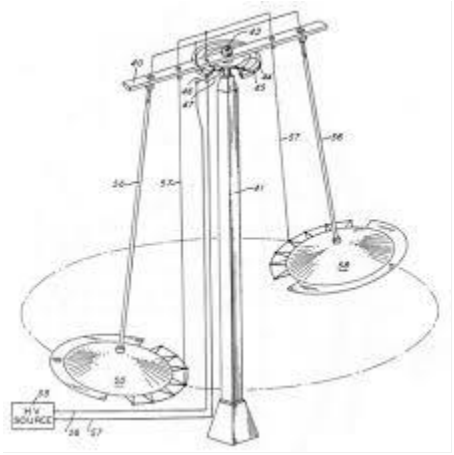


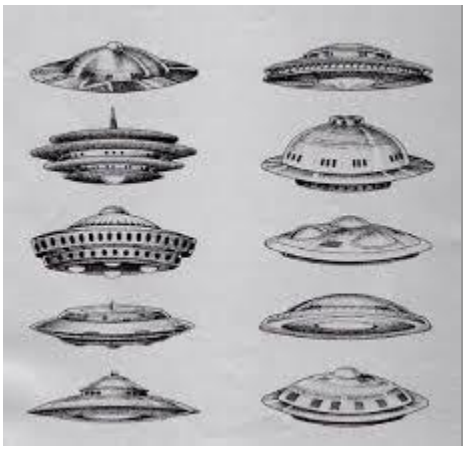



electropositive
electronegative

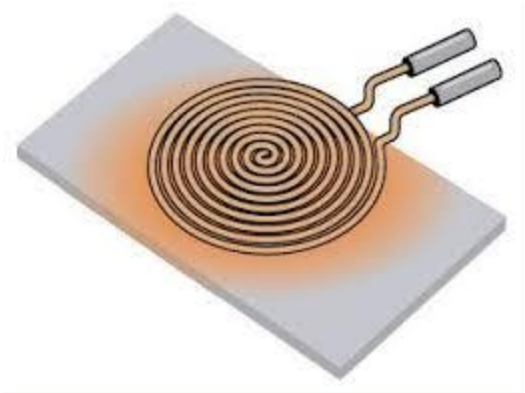


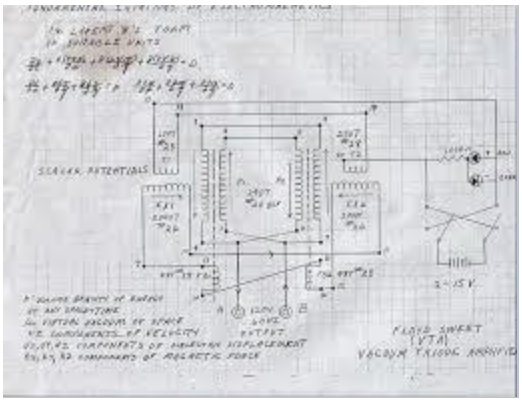

Jupiter Aurora
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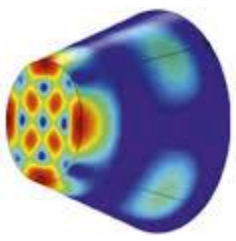

H.V. SOURCE




TESLA COIL POWERED FLYING SAUCER









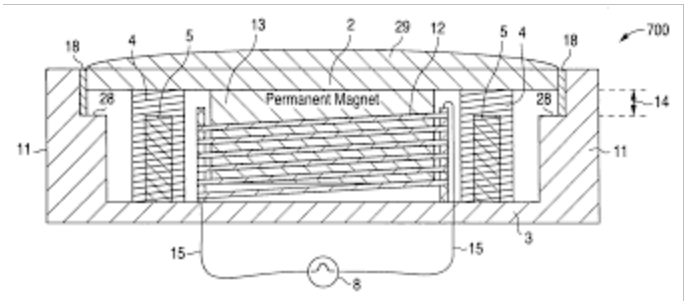


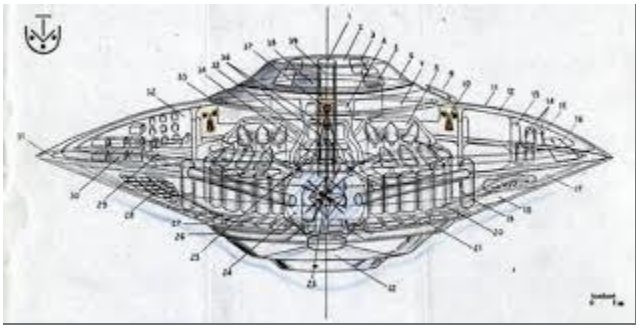


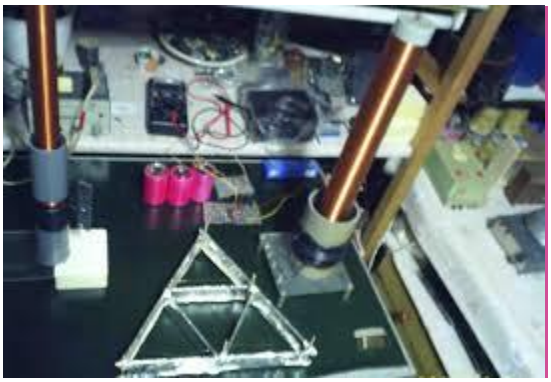


Engineer John Searl discovered that inertial mass could be canceled in such an approach to field propulsion, thus eliminating the presumed "light speed barrier"



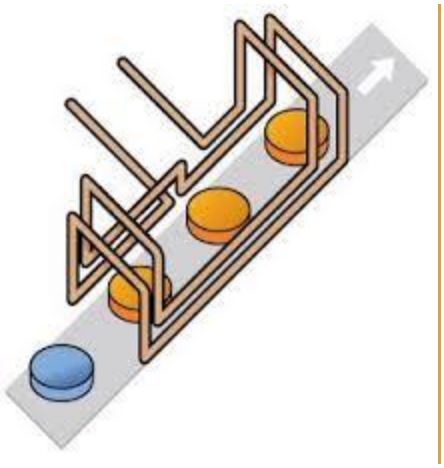








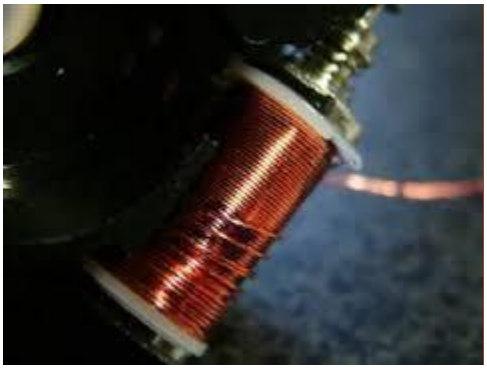


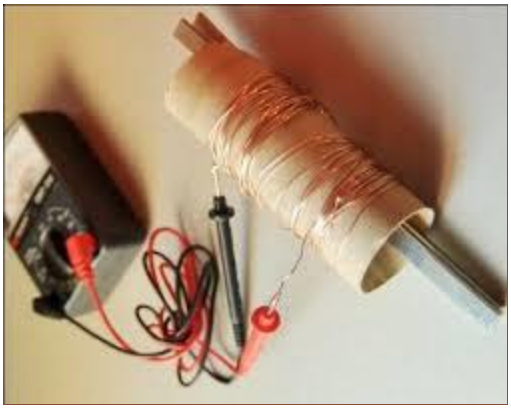








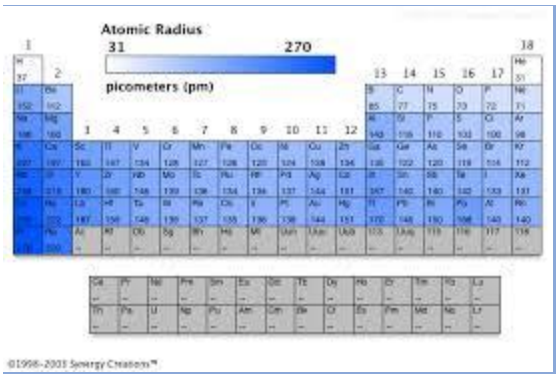




FACTORS INFLUENCING CHEMICAL SHIFT

- Electronegativity Effects.
- Van der Waal's Deshielding.
- Hydrogen Bonding.
- Magnetic Anisotropy.
- Concentration, Tempareture and Solvent Effect.

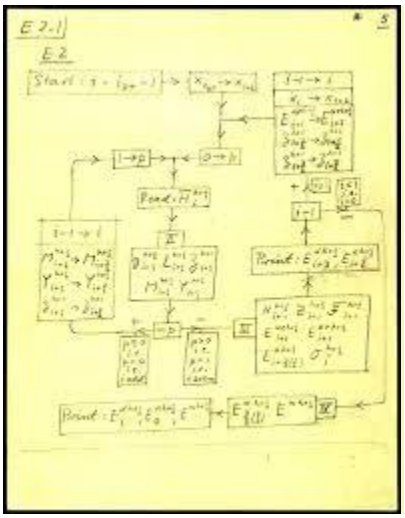




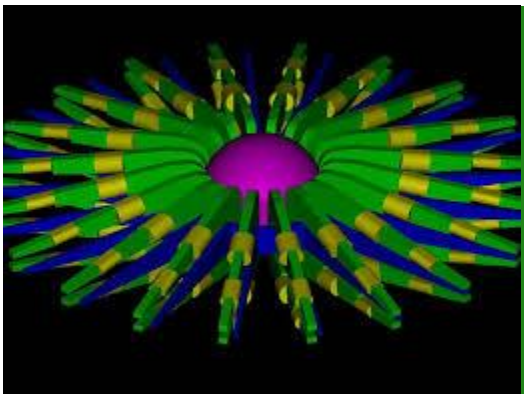
Std.	10	100	1,000	2,000	3,000	4,000	5,000	35K	70K	100K	500K	1M	1.5M	2M
							# Cycles X 10.0							
Specimen							Free Height (in)							
#														
1	9.65	9.65	9.57	9.57	9.57	9.57	9.53	9.53	9.53	9.53	9.53	9.49	9.49	9.49
2	9.65	9.65	9.57	9.57	9.57	9.57	9.53	9.49	9.49	9.49	9.49	9.45	9.45	9.45
3	9.73	9.73	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.45	9.45
4	9.53	9.53	9.61	9.57	9.57	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.45	9.45
5	9.53	9.53	9.57	9.49	9.49	9.49	9.45	9.45	9.45	9.45	9.45	9.41	9.41	9.41
6	9.61	9.61	9.53	9.49	9.49	9.49	9.49	9.45	9.49	9.49	9.49	9.49	9.49	9.49
Avg	9.65	9.64	9.58	9.53	9.53	9.53	9.51	9.50	9.51	9.50	9.50	9.50	9.48	9.48

Hastelloy	10	100	1,000	2,000	3,000	4,000	5,000	35K	70K	100K	500K	1M	1.5M	2M
							# Cycles X 10.0							
Specimen							Free Height (in)							
#														
1	10.08	10.08	10.39	10.08	10.08	10.08	10.08	10.08	10.08	10.08	10.08	10.04	10.04	10.04
2	9.92	9.92	9.88	9.80	9.88	9.88	9.84	9.84	9.84	9.84	9.84	9.80	9.80	9.80
3	10.39	10.39	10.28	10.28	10.24	10.24	10.16	10.16	10.16	10.16	10.16	10.12	10.12	10.12
4	9.88	9.88	9.84	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.76	9.76	9.76
5	10.00	10.00	9.96	9.96	9.96	9.92	9.88	9.88	9.88	9.88	9.88	9.76	9.76	9.76
6	10.04	10.04	10.00	9.96	9.92	9.92	9.88	9.88	9.88	9.84	9.84	9.84	9.84	9.84
Avg	10.05	10.05	10.01	9.99	9.97	9.91	9.95	9.92	9.94	9.94	9.92	9.89	9.89	9.89

Table 1







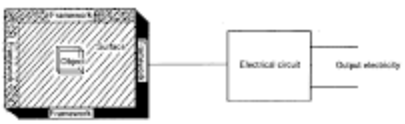
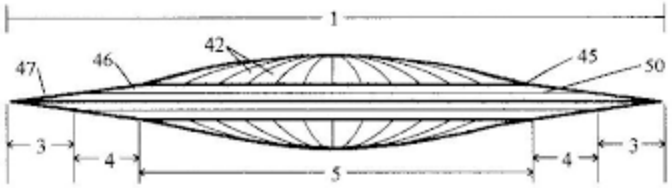


Fig-1: Energy harvester



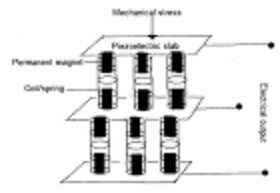
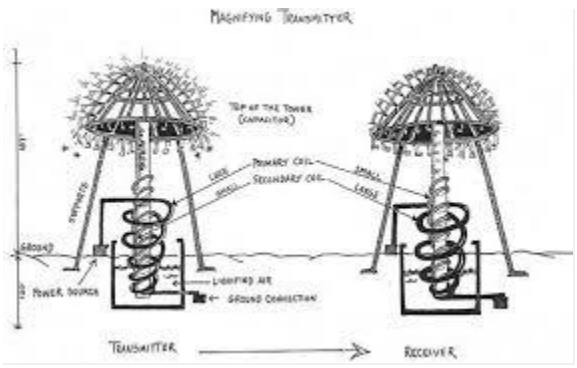


Fig-2: Electromagnetic and piezoelectric framework



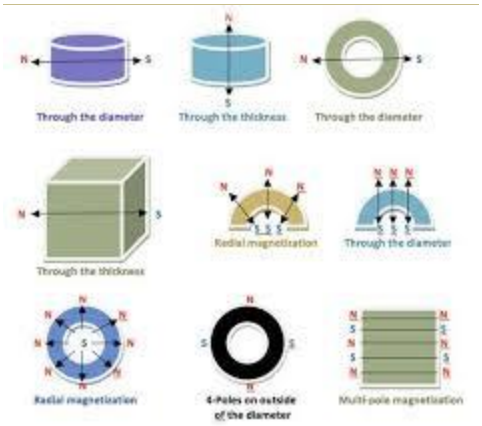
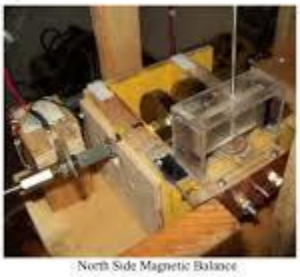


Fig. 3

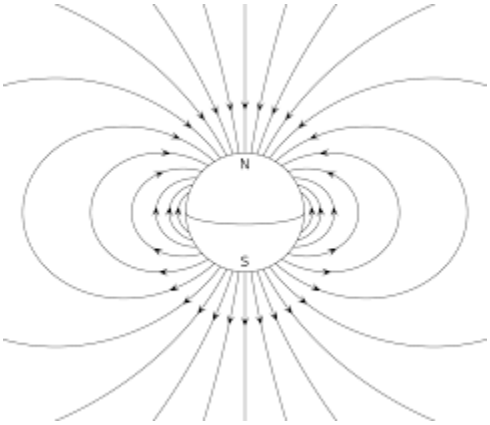


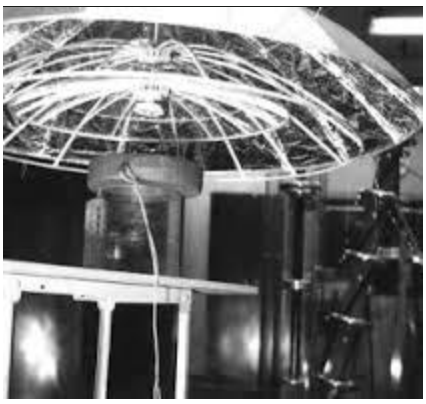
North Side Magnetic Balance

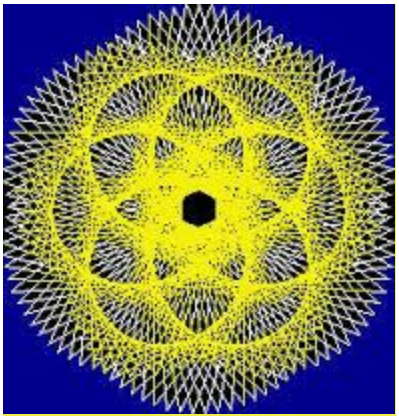
Fig. 4



South Side Magnetic Balance







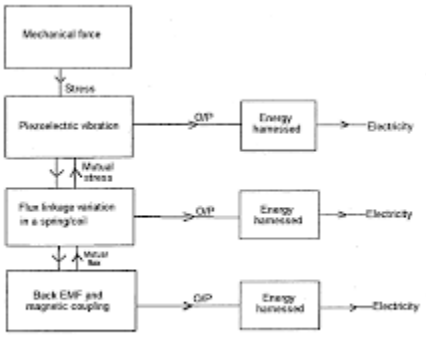
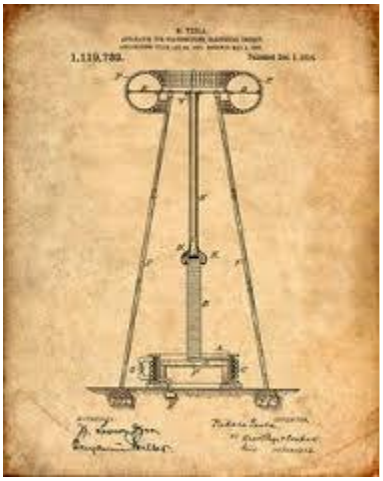
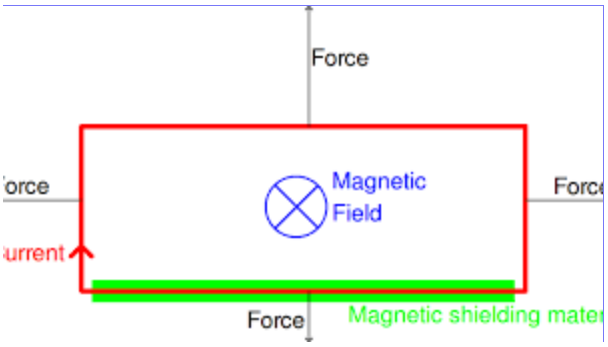


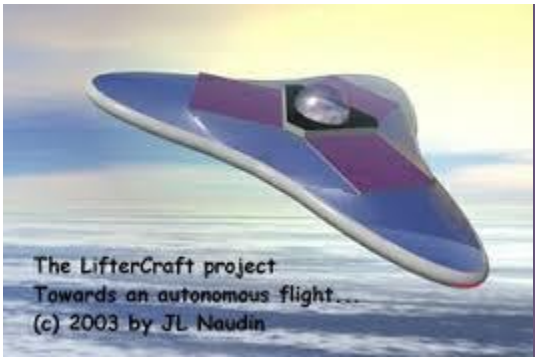
Fig-6: Energy harnessing flow in energy harvester

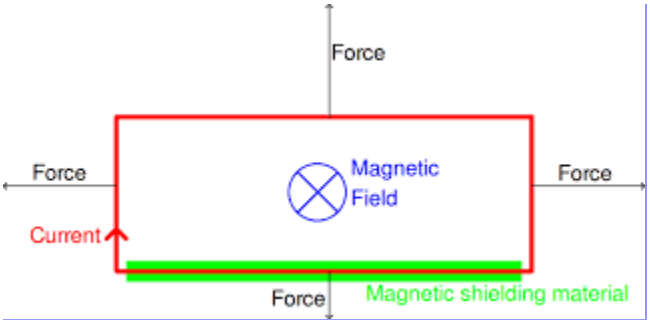









The LifterCraft project
Towards an autonomous flight...
(c) 2003 by JL Naudin

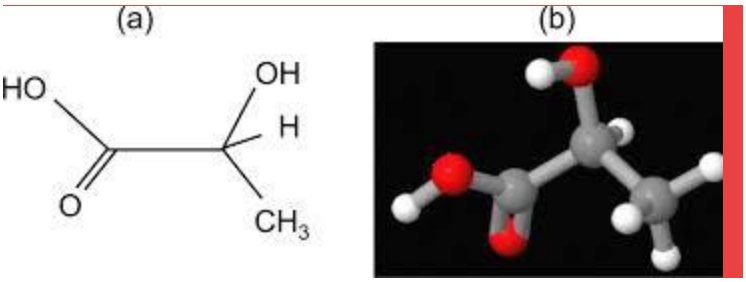

Force
Force
Magnetic
Field
Force
Current
Force
Magnetic shielding material


Cine
Talkies
Advanced Technology For
Film Industry by AMF SPDT

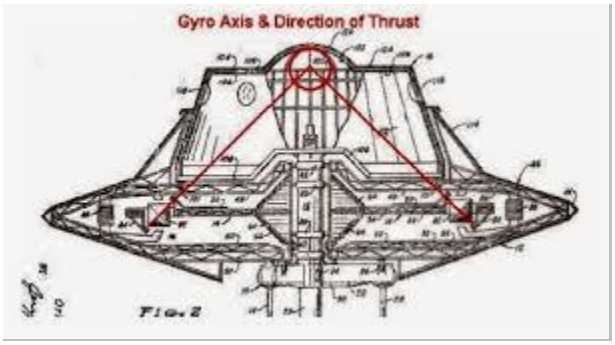




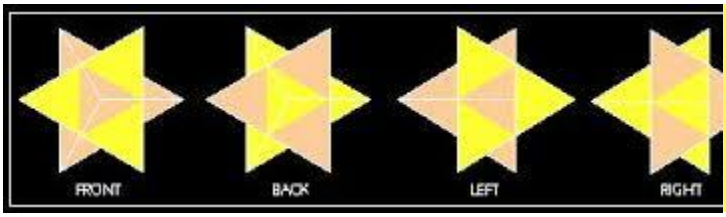

New
Energy
Technologies
SOLIDonSTATE ELECTRICAL
OVER UNITY DEVICES
by William Alyk

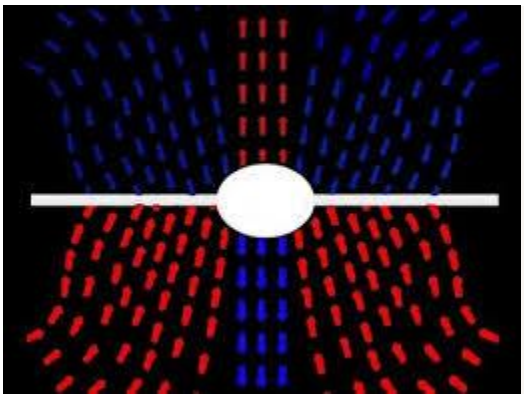

(a)
(b)
HO
OH
H
O
CH_3

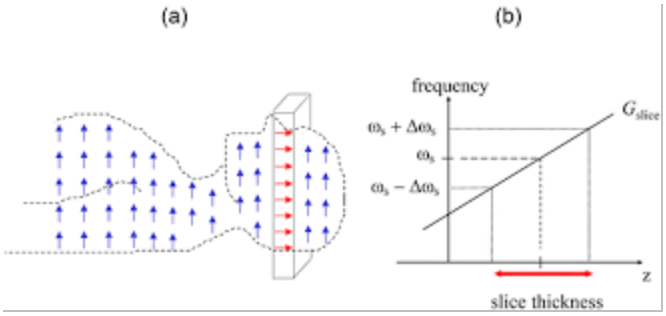


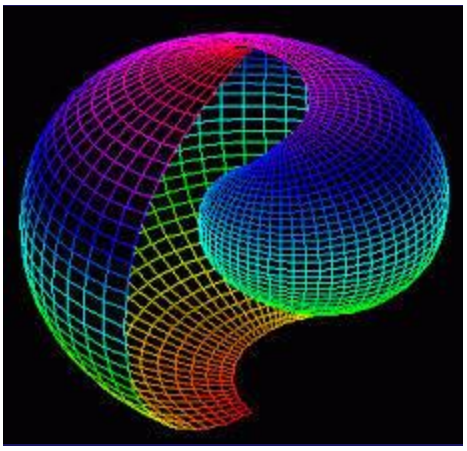

Gyro Axis & Direction of Thrust
Fig. 2



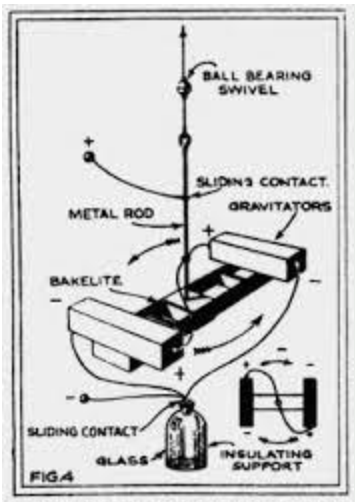

FRONT
BACK
LEFT
RIGHT



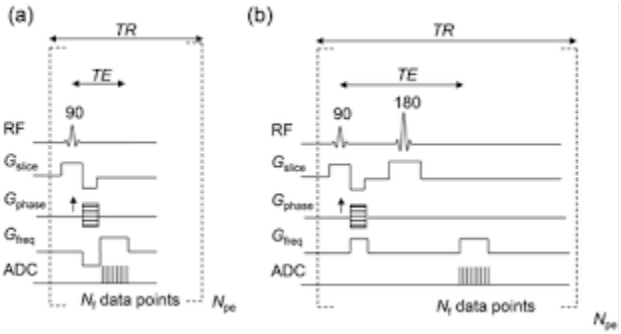

(a)
(b)
frequency
$\omega_s + \Delta\omega_s$
ω_s
$\omega_s - \Delta\omega_s$
G_{slice}
z
slice thickness




Forward astronaut Capt. Edgar D. Mitchell, Ph. D.
ETHER-TECHNOLOGY
A Rational Approach to Gravity Control
by Rho Sigma
THE UNDERGROUND CLASSIC IS BACK IN PRINT!



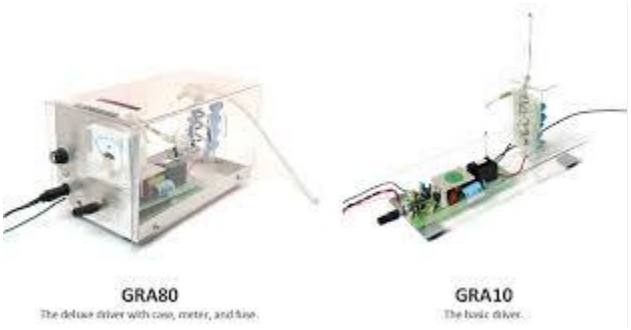
A GRAVITATOR ROTOR IS SIMPLY AN ASSEMBLY OF UNITS SO MADE THAT ROTATION RESULTS UNTIL THE IMPULSE IS EXHAUSTED.

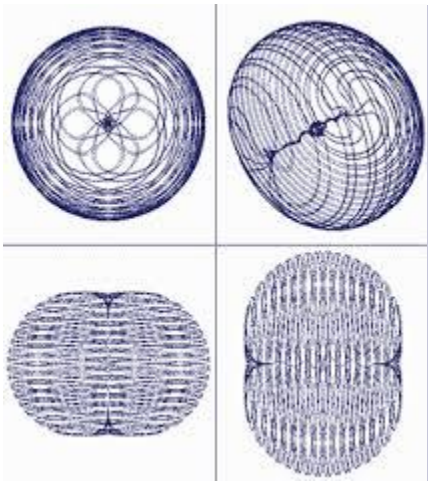


- The RFO coil is installed perpendicular (90 °C) to the applied magnetic field and transmits radio waves of fixed frequency such as 60,100,200 or 300 MHz to a small coil that energies the sample in the probe.
- This is done so that the applied RF field should not change the effective magnetic field in the process of irradiation.

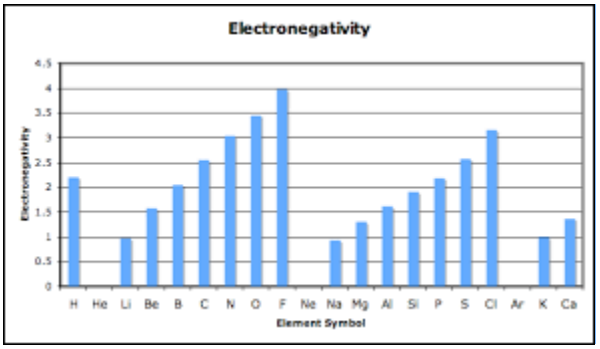


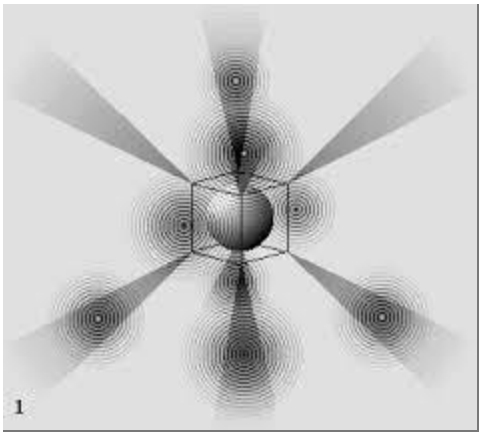










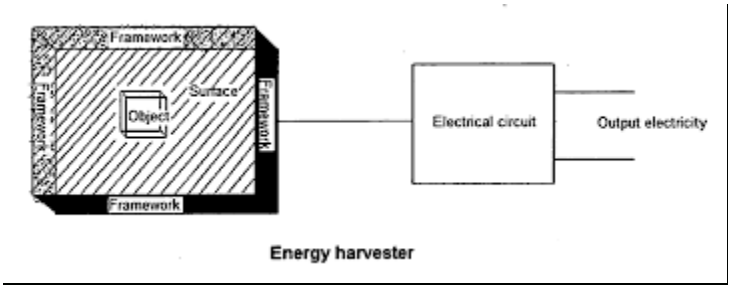






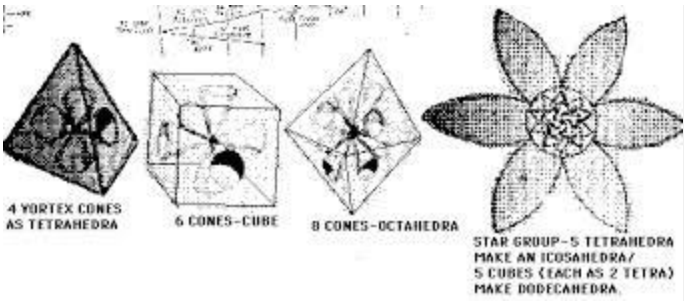






Energy harvester





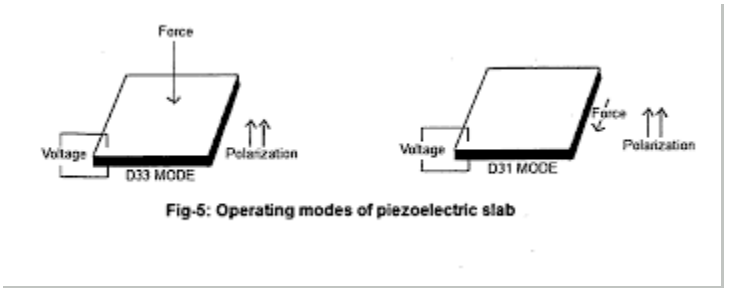
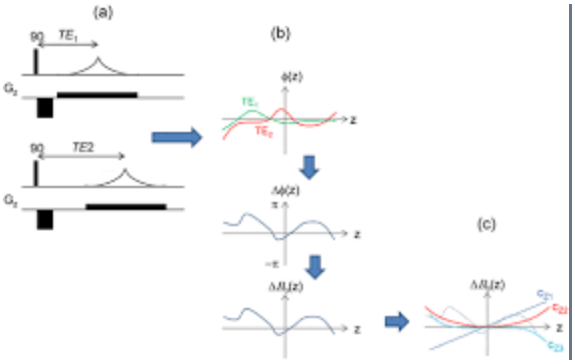
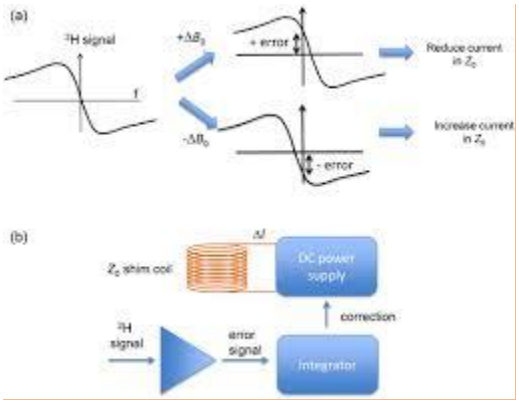
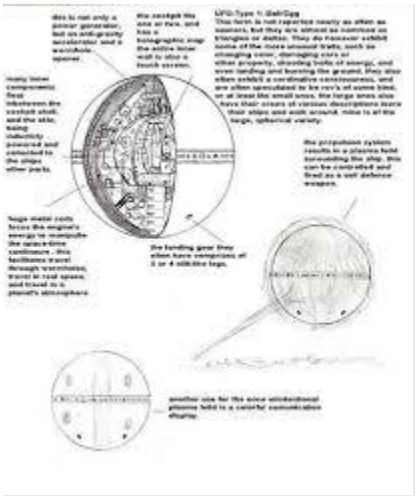


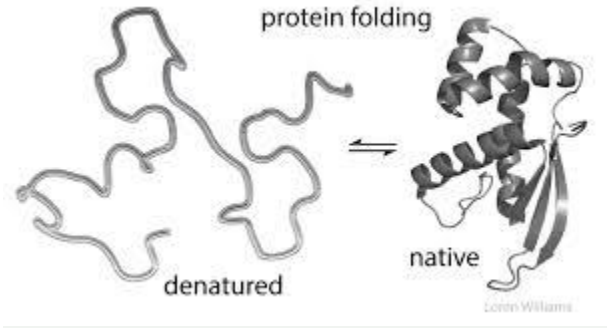
Fig-5: Operating modes of piezoelectric slab

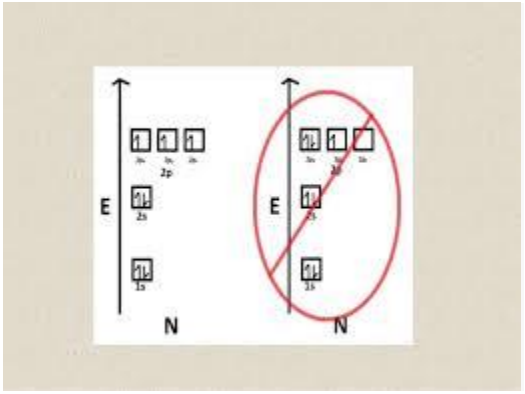

(a)
(b)
(c)
TE1
TE2
G
φ(z)
Δφ(z)
ΔB(z)
z



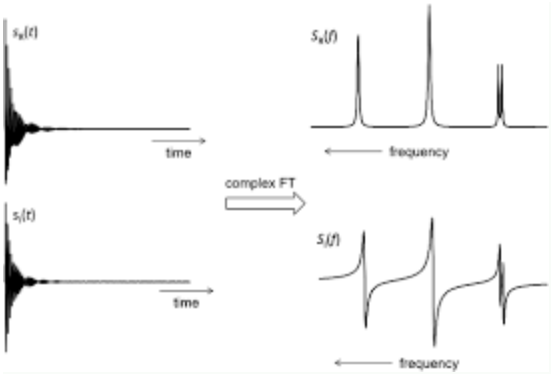

(a)
³H signal
+ error
Reduce current in Z_0
- error
Increase current in Z_0
(b)
Z_0 shim coil
DC power supply
correction
³H signal
error signal
Integrator

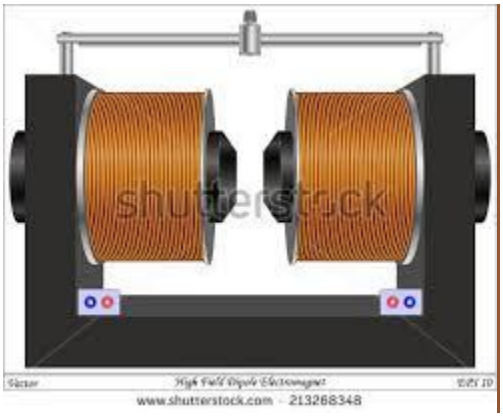


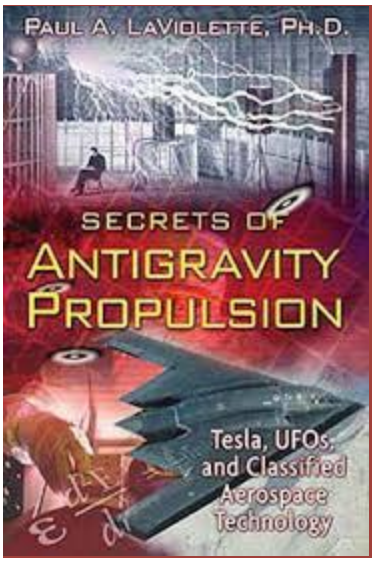

protein folding
denatured
native

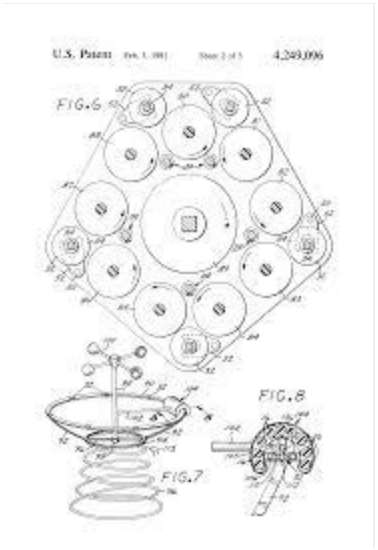

E
2p
2s
1s
N




time
frequency
complex FT
time
frequency


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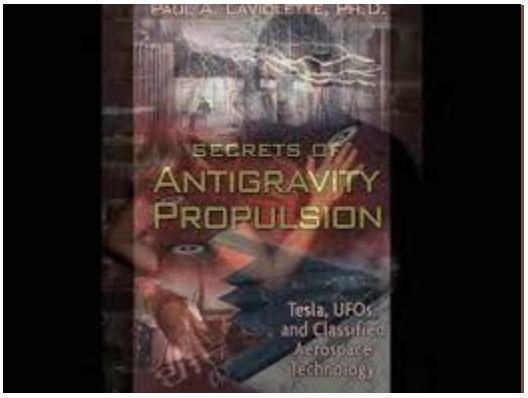

PAUL A. LAVIOLETTE, PH.D.
SECRETS OF
ANTIGRAVITY
PROPULSION
Tesla, UFOs,
and Classified
Aerospace
Technology


U.S. Patent
4,249,096
FIG.6
FIG.8
FIG.7




Dr. Paul LaViolette
Dev. Subquantum Kinetics




SECRETS OF
ANTIGRAVITY
PROPULSION
Tesla, UFOs,
and Classified
Aerospace
Technology




Dr. Paul LaViolette

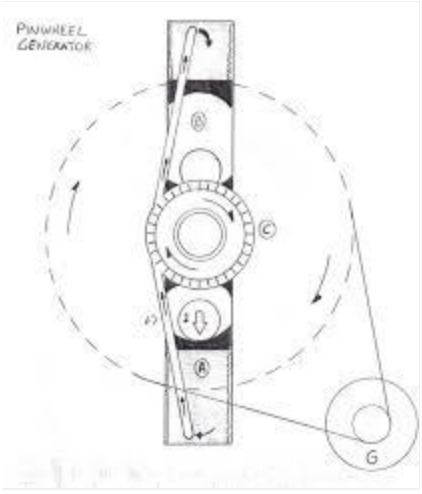


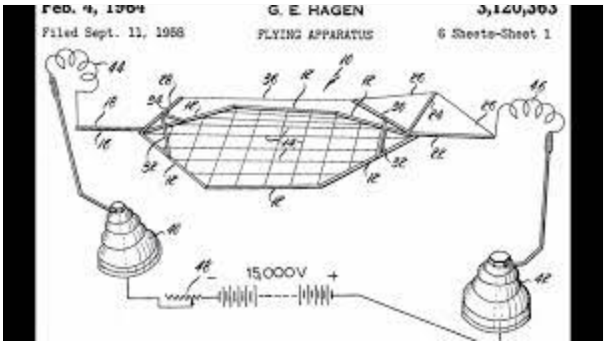

REAL
FREE ENERGY

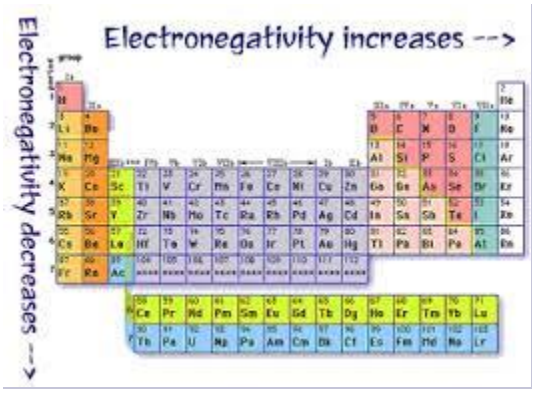


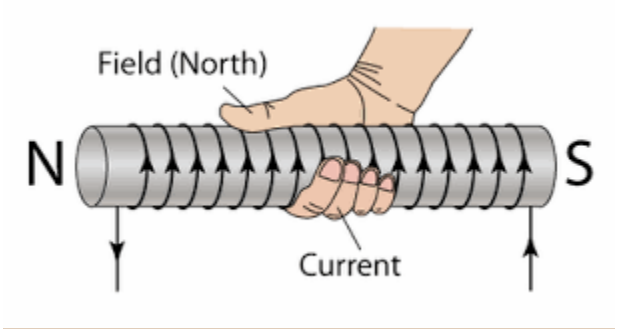


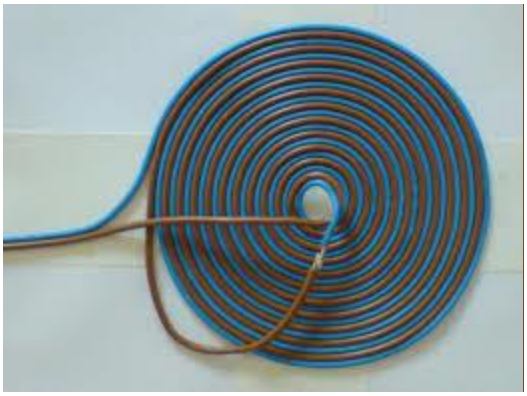
Ancien
CODE

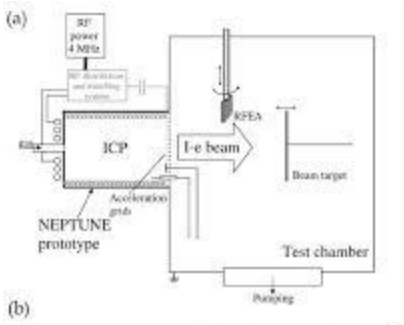

PINWHEEL
GENERATOR

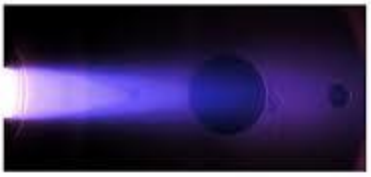

G. E. HAGEN
Filed Sept. 11, 1958
FLYING APPARATUS
15,000V

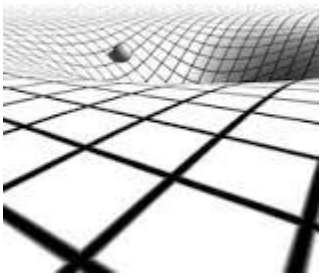

Electronegativity increases -->
Electronegativity decreases -->


Field (North)
N
S
Current



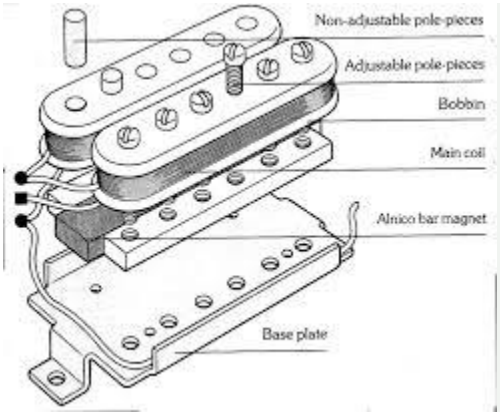

(a)
RF power 4 MHz
ICP
I-e beam
RFEA
Beam target
Acceleration grids
NEPTUNE prototype
Test chamber
Pumping
(b)

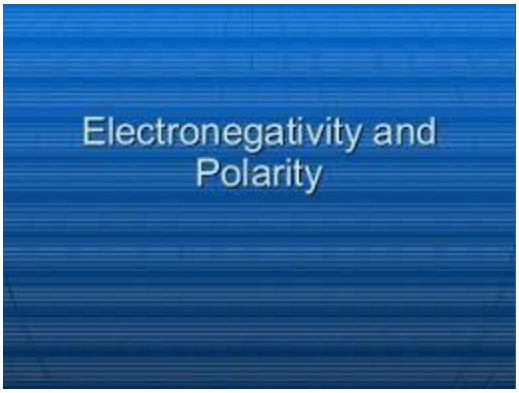






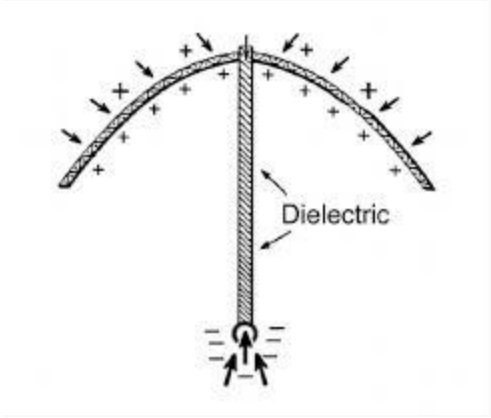



Non-adjustable pole-pieces
Adjustable pole-pieces
Bobbin
Main coil
Alnico bar magnet
Base plate


Electronegativity and Polarity

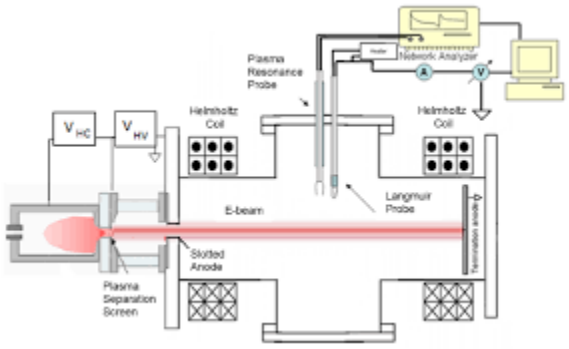


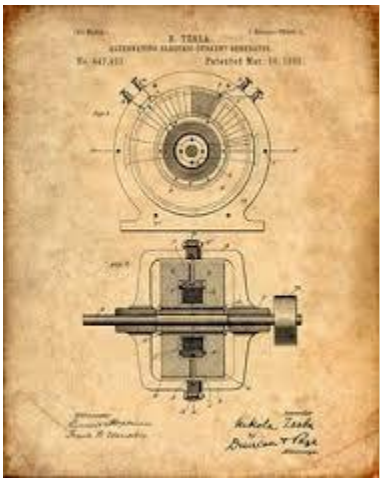



Dielectric

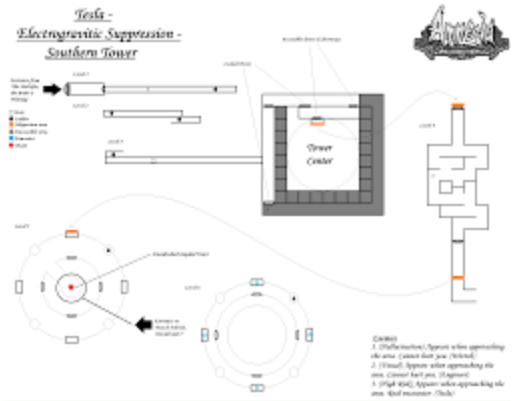




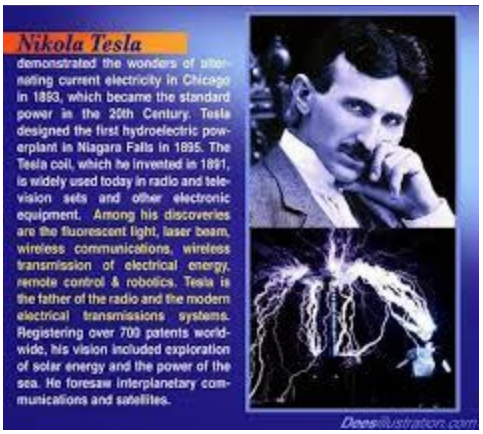

Plasma
Resonance
Probe
Network Analyzer
A
V
Helmholtz
Coil
Helmholtz
Coil
V HC
V HV
E-beam
Langmuir
Probe
Slotted
Anode
Plasma
Separation
Screen



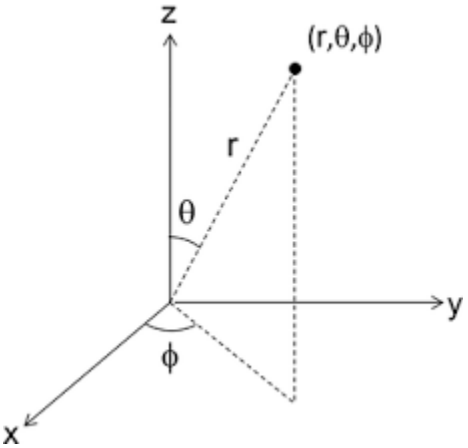


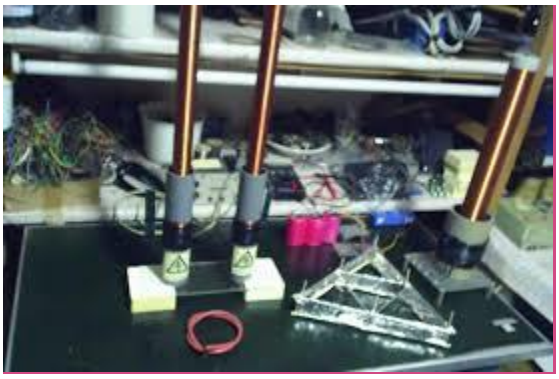

Tesla -
Electrogravitic Suppression -
Southern Tower

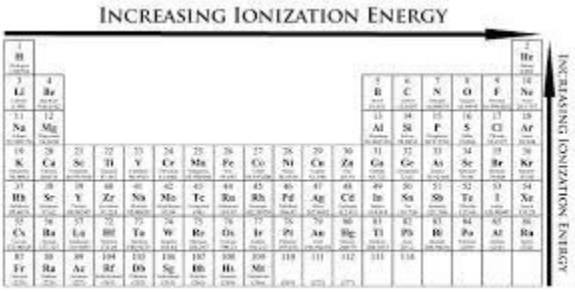


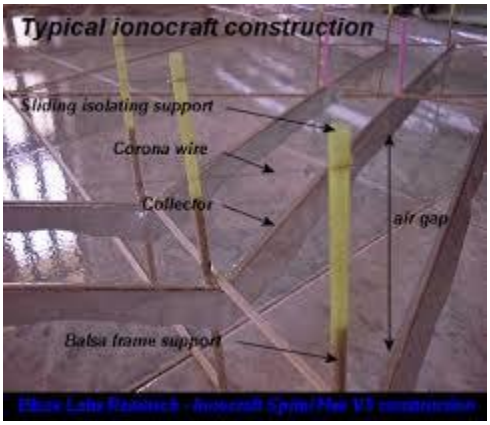

Nikola Tesla
demonstrated the wonders of alternating current electricity in Chicago in 1893, which became the standard power in the 20th Century. Tesla designed the first hydroelectric powerplant in Niagara Falls in 1895. The Tesla coil, which he invented in 1891, is widely used today in radio and television sets and other electronic equipment. Among his discoveries are the fluorescent light, laser beam, wireless communications, wireless transmission of electrical energy, remote control & robotics. Tesla is the father of the radio and the modern electrical transmissions systems. Registering over 700 patents worldwide, his vision included exploration of solar energy and the power of the sea. He foresaw interplanetary communications and satellites.




z
(r,θ,ϕ)
r
θ
y
ϕ
x




INCREASING IONIZATION ENERGY
INCREASING IONIZATION ENERGY

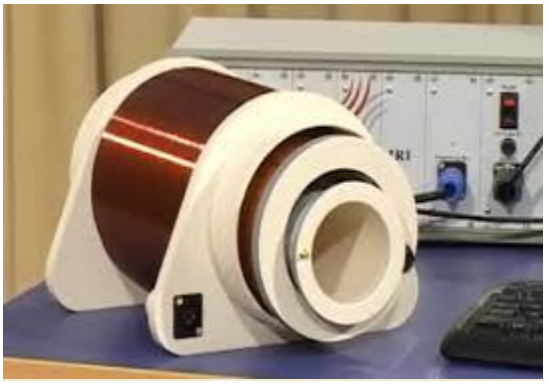

Typical ionocraft construction
Sliding isolating support
Corona wire
Collector
air gap
Balsa frame support

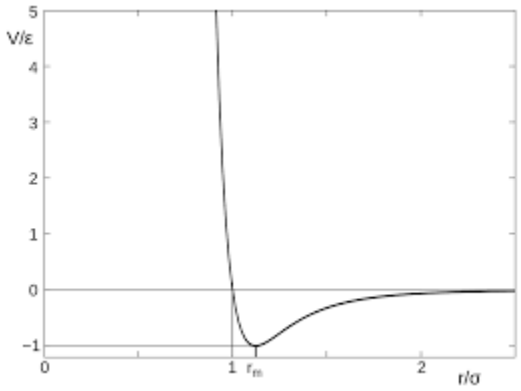


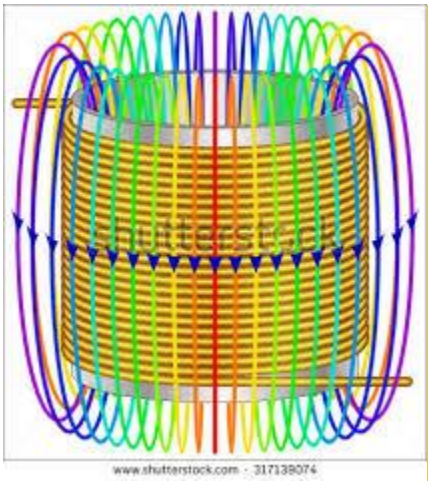



Yugoslav Earthquake,
Followed by Cold Explosion
Apr. 15
1979
Magnitude 7.2 on Richter scale
Epicenter 33 km. deep
More than 100 aftershocks
At Kamenari:
Adriatic sea mushroomed up
Like atomic bomb explosion
Signature of a cold explosion
Similar to Apr. 1984 test off coast of Japan, near Kurils (see inset graphics)
Note that April is a significant test month for the Communists (preparing official reports for May Day?)
OFF JAPAN, NEAR KURILS
1984 COLD EXPLOSION SIMILAR TO THIS ONE


Dr. Paul LaViolette

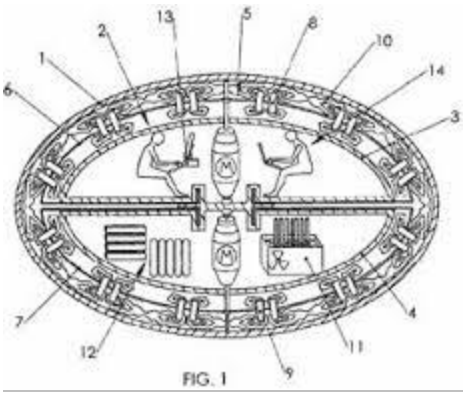


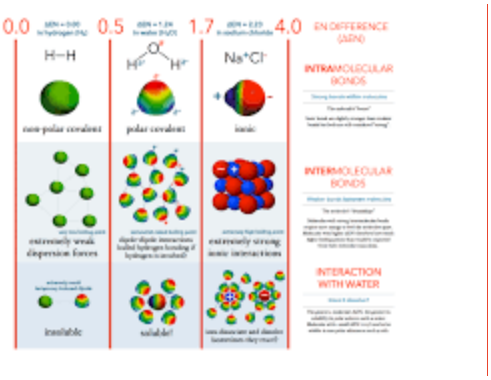

V/ε
5
4
3
2
1
0
−1
0
1
r_m
2
r/σ


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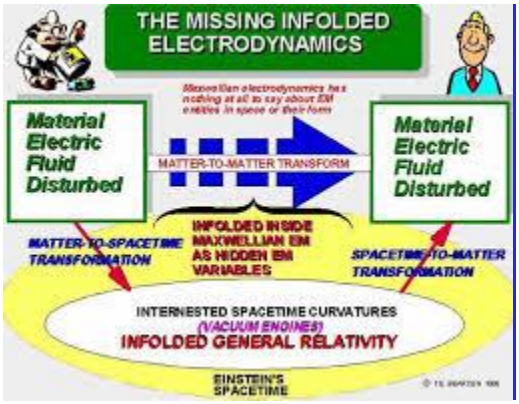




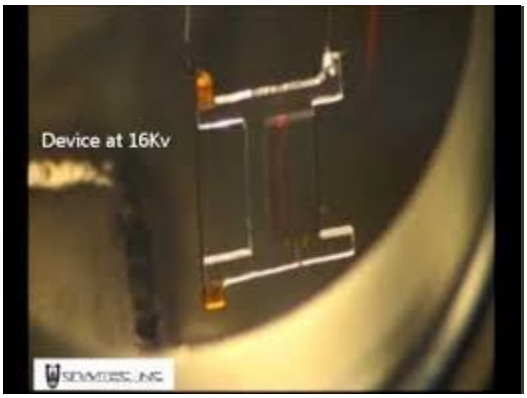

1
2
13
5
8
10
14
6
3
7
12
11
9
4
FIG. 1

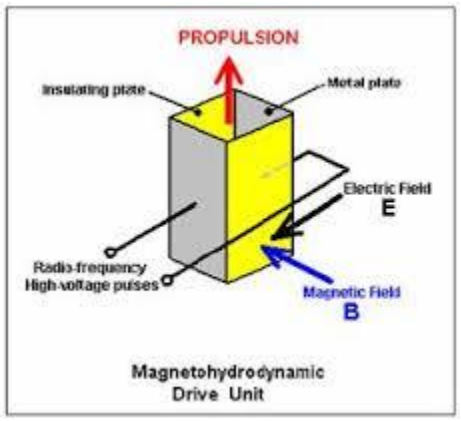

0.0
0.5
1.7
4.0
EN DIFFERENCE (ΔEN)
H–H
Na⁺Cl⁻
non-polar covalent
polar covalent
ionic
INTRAMOLECULAR BONDS
INTERMOLECULAR BONDS
extremely weak dispersion forces
extremely strong ionic interactions
INTERACTION WITH WATER
insoluble
soluble!

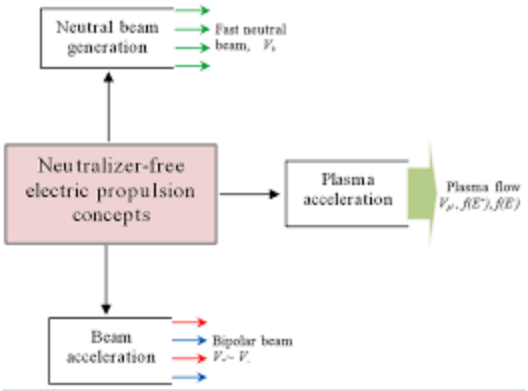



THE MISSING INFOLDED ELECTRODYNAMICS
Maxwellian electrodynamics has nothing at all to say about EM entities in space or their form
Material Electric Fluid Disturbed
MATTER-TO-MATTER TRANSFORM
Materiel Electric Fluid Disturbed
MATTER-TO-SPACETIME TRANSFORMATION
INFOLDED INSIDE MAXWELLIAN EM AS HIDDEN EM VARIABLES
SPACETIME-TO-MATTER TRANSFORMATION
INTERNESTED SPACETIME CURVATURES
(VACUUM ENGINES)
INFOLDED GENERAL RELATIVITY
EINSTEIN'S SPACETIME




Device at 16Kv

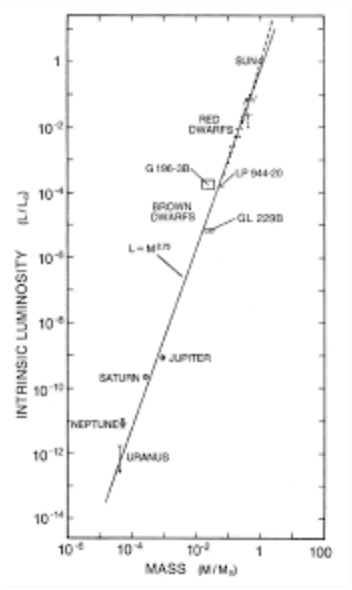

PROPULSION
Insulating plate
Metal plate
Electric Field
E
Radio-frequency
High-voltage pulses
Magnetic Field
B
Magnetohydrodynamic
Drive Unit


Neutral beam generation
Fast neutral beam, V_+
Neutralizer-free electric propulsion concepts
Plasma acceleration
Plasma flow
V_+, $f(E^+)$, $f(E)$
Beam acceleration
Bipolar beam
V_+, V_-

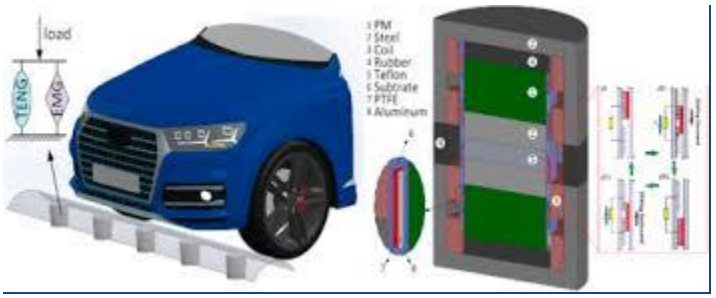


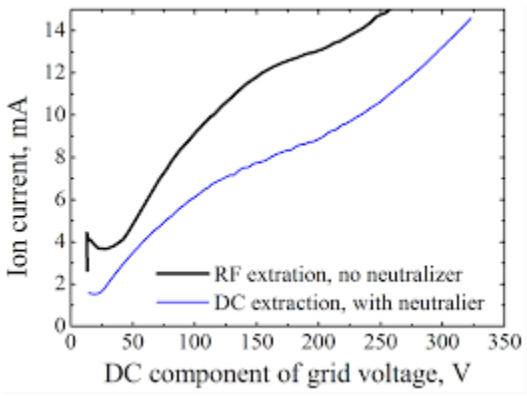


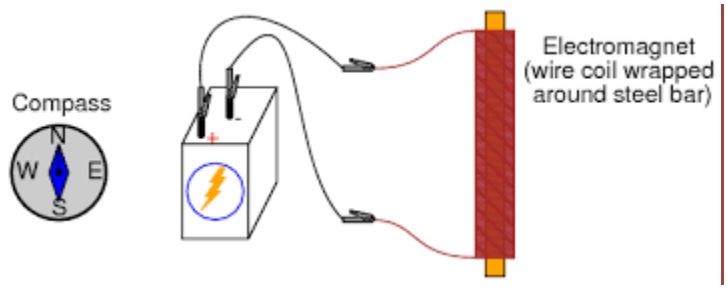


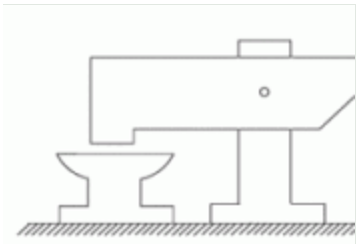

INTRINSIC LUMINOSITY (L/L⊙)
MASS (M/M⊙)
SUN
RED DWARFS
G 196-3B
LP 944-20
BROWN DWARFS
GL 229B
L ~ M^4.75
JUPITER
SATURN
NEPTUNE
URANUS
1
10^-2
10^-4
10^-6
10^-8
10^-10
10^-12
10^-14
10^-6
10^-4
10^-2
1
100

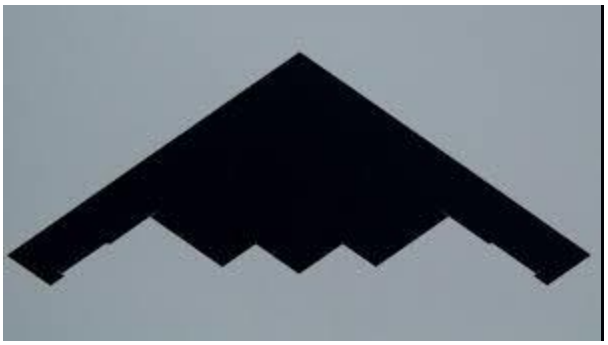



load
TENG
EMG
1 PM
2 Steel
3 Coil
4 Rubber
5 Teflon
6 Substrate
7 PTFE
8 Aluminum


Ion current, mA
DC component of grid voltage, V
RF extration, no neutralizer
DC extraction, with neutralier
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
350


Compass
N
W
E
S
Electromagnet
(wire coil wrapped
around steel bar)





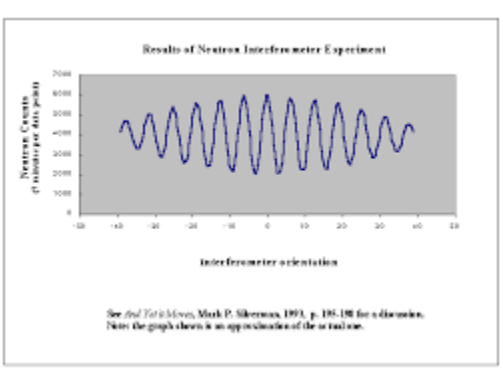

shutterstock
www.shutterstock.com · 390518302

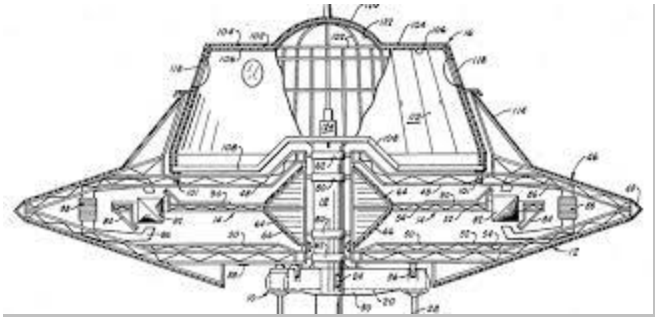




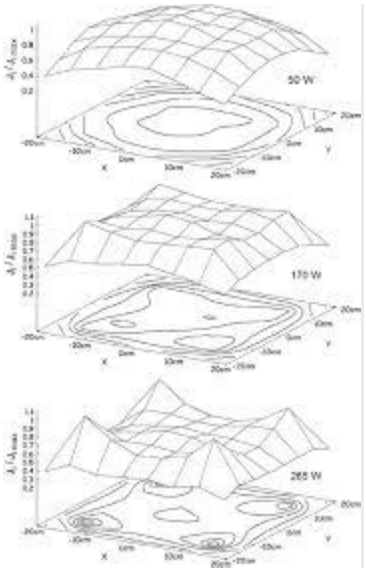

High-Voltage DC Generator PCBs
7kv
15kv
25kv

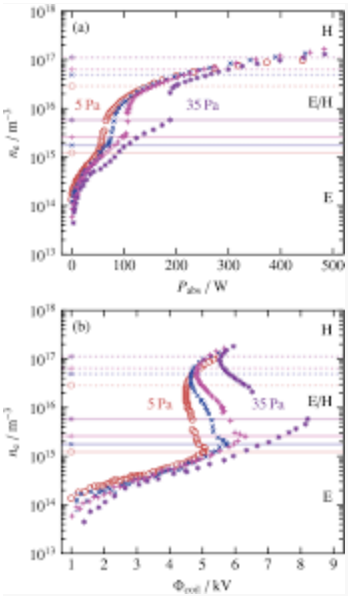



Results of Neutron Interferometer Experiment
Neutron Counts
(1 minute per data point)
interferometer orientation
See And Yet it Moves, Mark P. Silverman, 1993, p. 195-198 for a discussion.
Note: the graph shown is an approximation of the actual one.

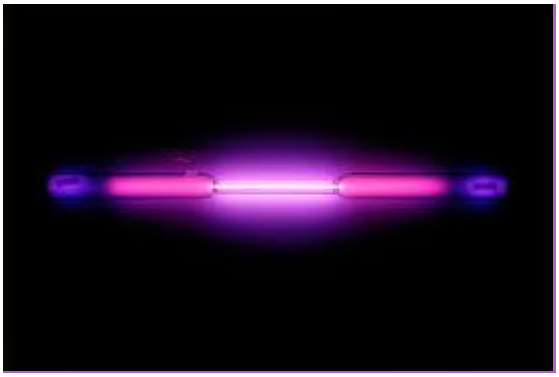


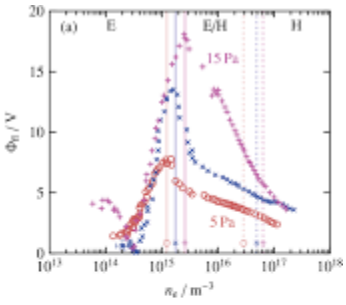

0:18 / 0:38
360p

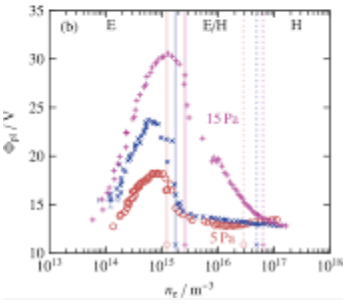


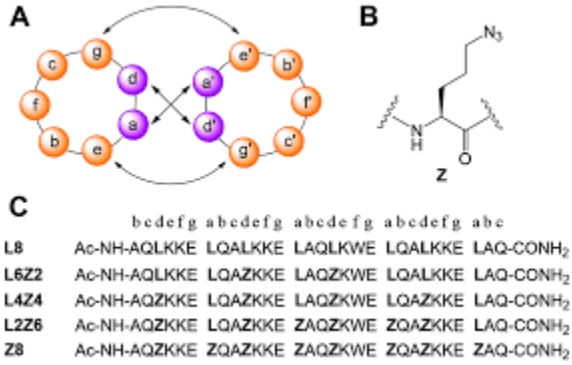






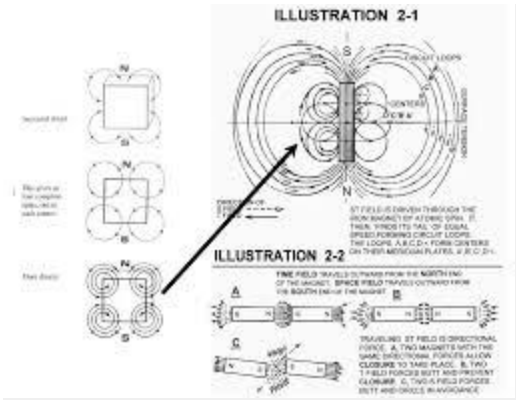




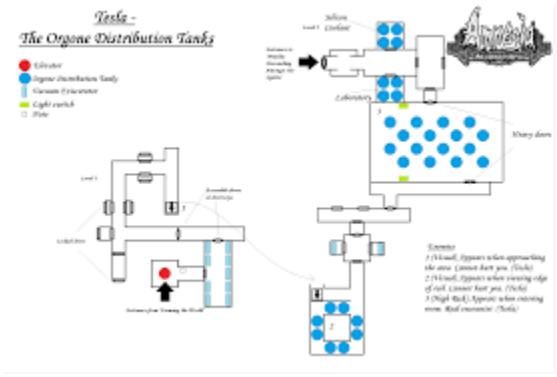


Strange Characteristics of Iran Quake, Sep. 1978

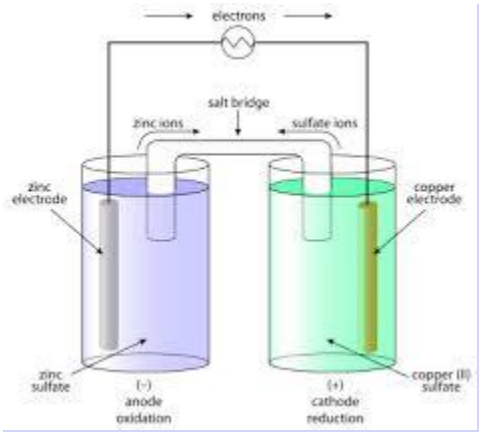
- Signatures
 - 7.4 on Richter scale
 - No aftershocks: 6.0 expected (normal)
 - Strange epicenter
 - Anomalous depth
- Deception
 - 10 MT Soviet nuclear explosion 36 hours before the quake
 - Prior disinformation regarding Soviet attempted development of focusing shock waves from underground nuclear explosions, to cause distant earthquakes

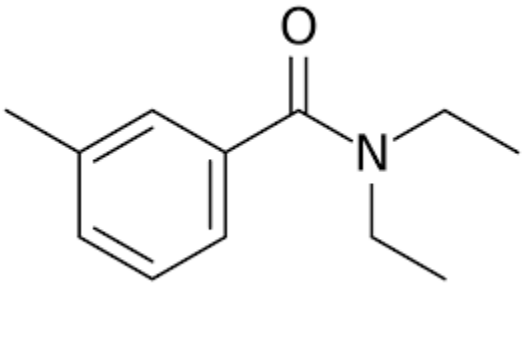

ILLUSTRATION 2-1
ILLUSTRATION 2-2



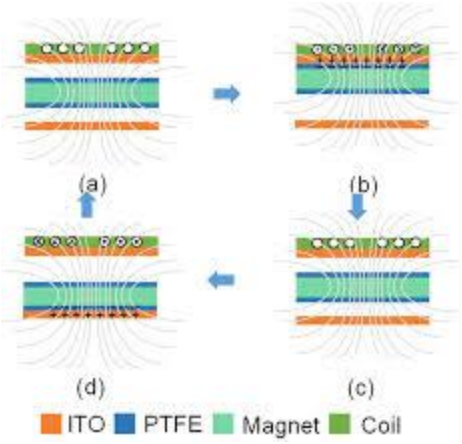

Tesla -
The Orgone Distribution Tanks

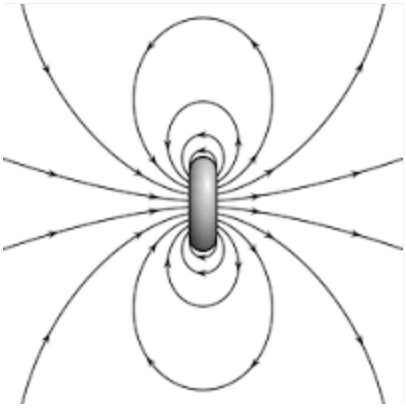


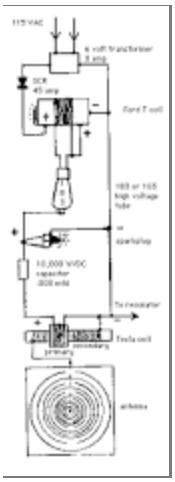

electrons
salt bridge
zinc ions
sulfate ions
zinc electrode
copper electrode
zinc sulfate
(−)
anode
oxidation
(+)
cathode
reduction
copper (II) sulfate


O
N

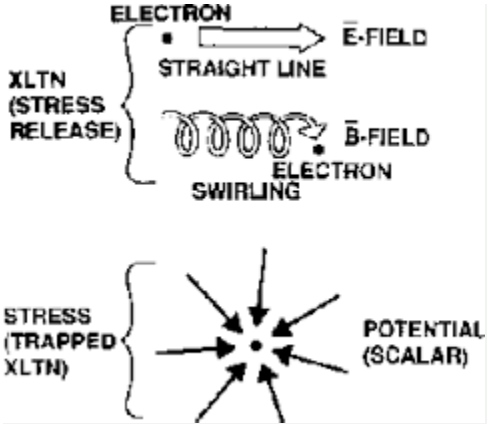

WE the PEOPLE
YOUR VOICE IN OUR GOVERNMENT
CREATE A PETITION
OPEN PETITIONS
RESPONSES
HOW & WHY
Require representatives from the Office of Science & Technology Policy attend the Citizen Hearing on Disclosure in April

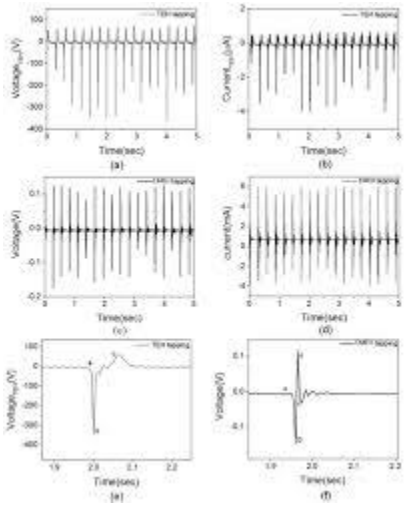

(a)
(b)
(d)
(c)
ITO
PTFE
Magnet
Coil

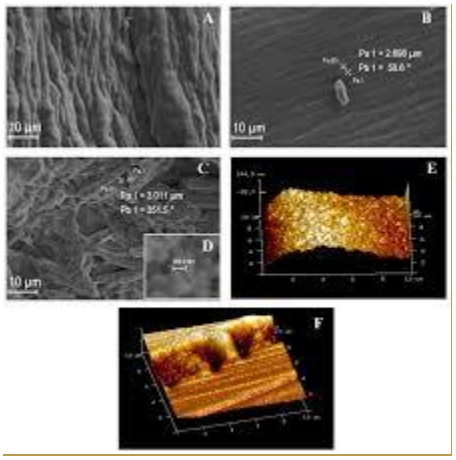


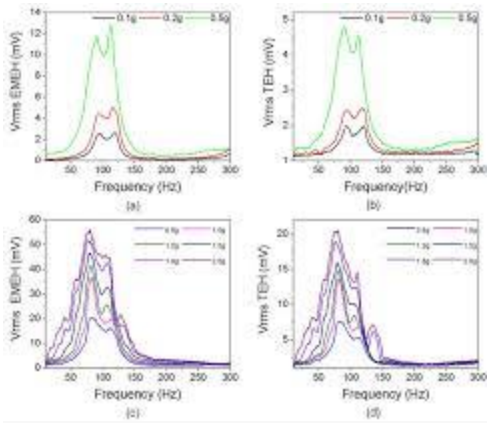


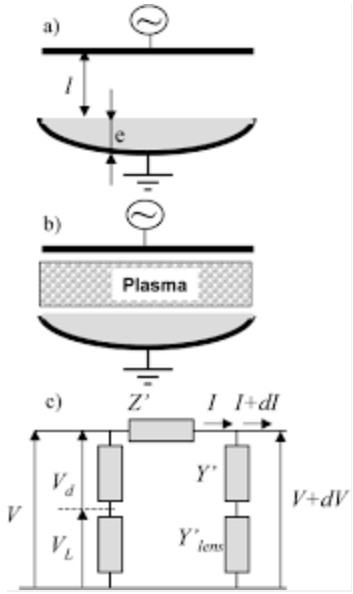



ELECTRON
E-FIELD
STRAIGHT LINE
XLTN
(STRESS
RELEASE)
B-FIELD
ELECTRON
SWIRLING
STRESS
(TRAPPED
XLTN)
POTENTIAL
(SCALAR)

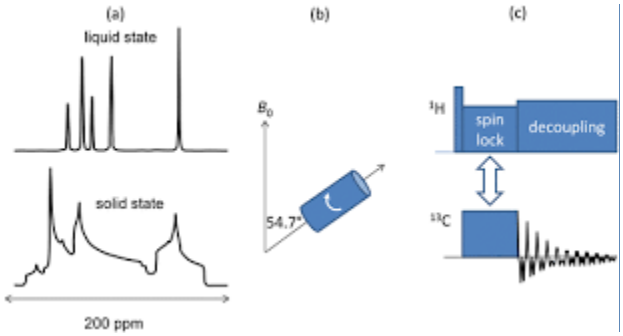



A
B
C
D
E
F
10 µm

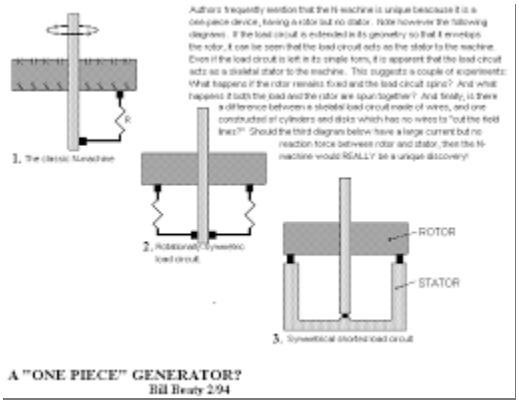

Vrms EMEH (mV)
Vrms TEH (mV)
Frequency (Hz)
0.1g
0.2g
0.5g


a)
I
e
b)
Plasma
c)
Z'
I
I+dI
V
V_d
V_L
Y'
Y'_lens
V+dV



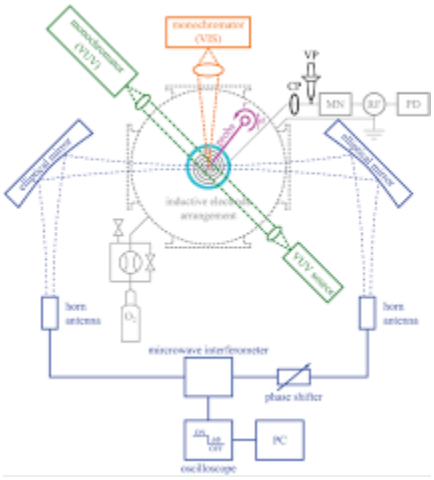

(a)
liquid state
solid state
200 ppm
(b)
B0
54.7°
(c)
1H
spin lock
decoupling
13C



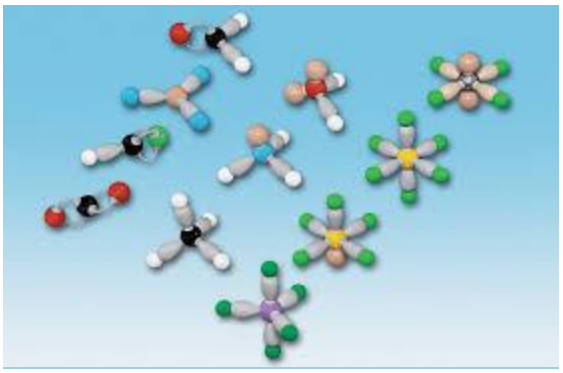

Authors frequently mention that the N-machine is unique because it is a one-piece device, having a rotor but no stator. Note however the following diagrams. If the load circuit is extended in its geometry so that it envelops the rotor, it can be seen that the load circuit acts as the stator to the machine. Even if the load circuit is left in its simple form, it is apparent that the load circuit acts as a skeletal stator to the machine. This suggests a couple of experiments: What happens if the rotor remains fixed and the load circuit spins? And what happens if both the load and the rotor are spun together? And finally, is there a difference between a skeletal load circuit made of wires, and one constructed of cylinders and disks which has no wires to "cut the field lines?" Should the third diagram below have a large current but no reaction force between rotor and stator, then the N-machine would REALLY be a unique discovery!
1. The classic Marachese
2. Rotational symmetric load circuit
ROTOR
STATOR
3. Symmetrical shorted load circuit
A "ONE PIECE" GENERATOR?
Bill Beaty 2/94





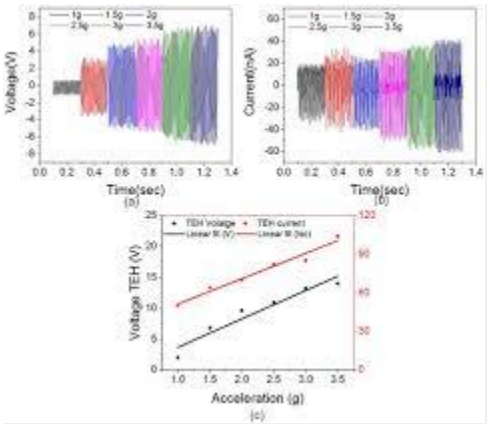

monochromator (VIS)
monochromator (VUV)
VP
MN
RF
PD
ellipsoidal mirror
ellipsoidal mirror
inductive electrode arrangement
VUV source
horn antenna
horn antenna
microwave interferometer
phase shifter
PC
oscilloscope

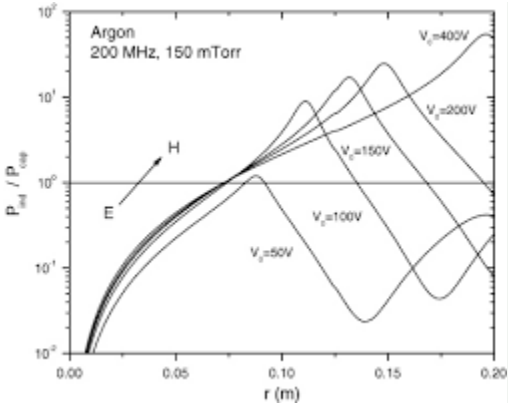




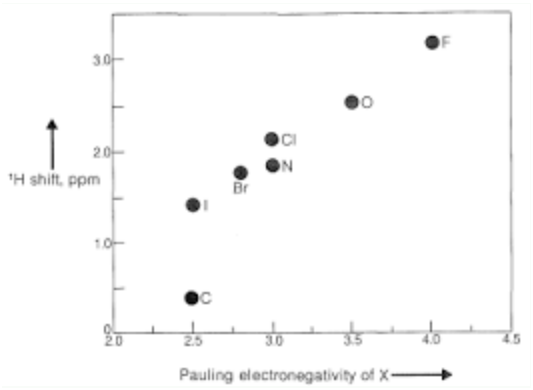


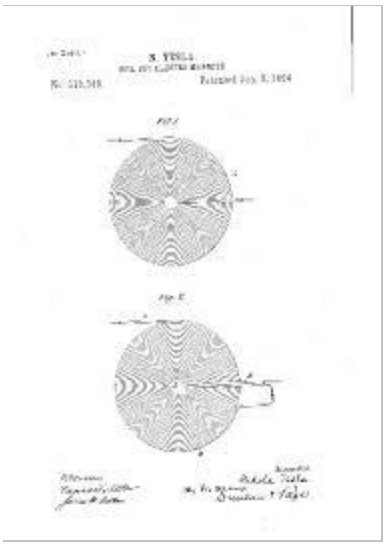

Initiation
Polymerization
Polymeric oxidation
Chemical polymerization
Polymeric degradation
Branching
Adsorption of the polyelectrolyte
Conducting polymer
Polyelectrolyte

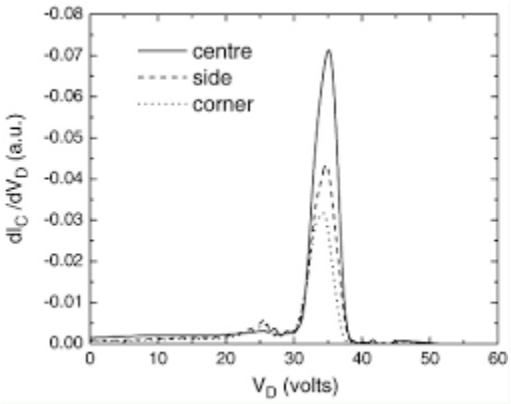

Voltage(V)
Time(sec)
(a)
Current(nA)
Time(sec)
(b)
Voltage TEH (V)
Acceleration (g)
(c)

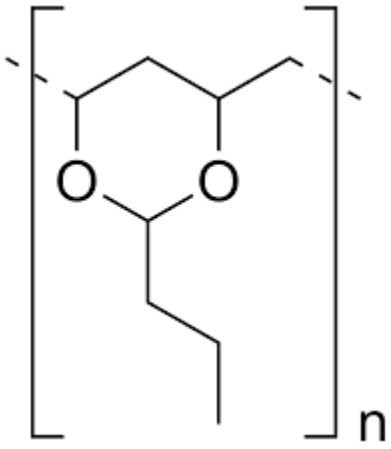

Argon
200 MHz, 150 mTorr
V0=400V
V0=200V
V0=150V
V0=100V
V0=50V
H
E
r (m)

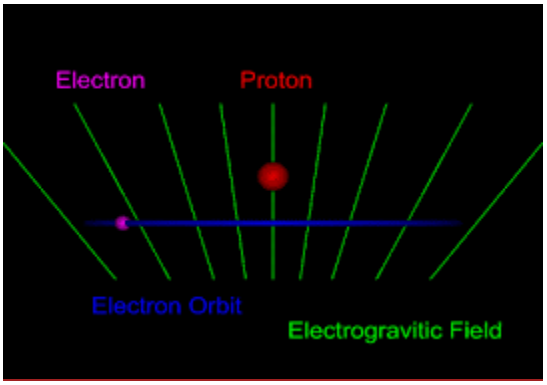


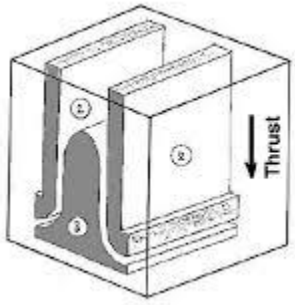

F
O
Cl
N
Br
I
C
¹H shift, ppm
Pauling electronegativity of X

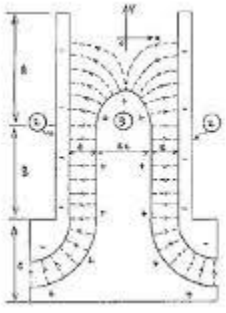


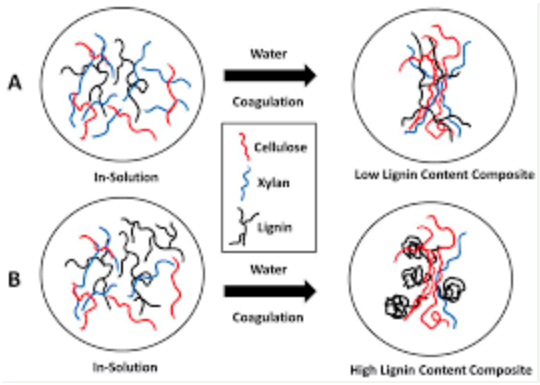

centre
side
corner
dI_C /dV_D (a.u.)
V_D (volts)

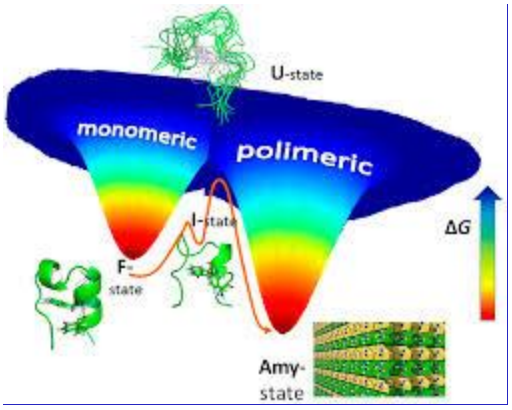

O
O
n


Electron
Proton
Electron Orbit
Electrogravitic Field


Thrust

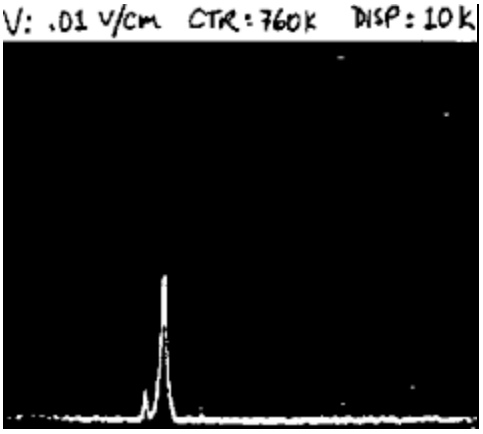



A
Water
Coagulation
In-Solution
Low Lignin Content Composite
Cellulose
Xylan
Lignin
B
Water
Coagulation
In-Solution
High Lignin Content Composite


U-state
monomeric
polimeric
I-state
F-state
ΔG
Amy-state



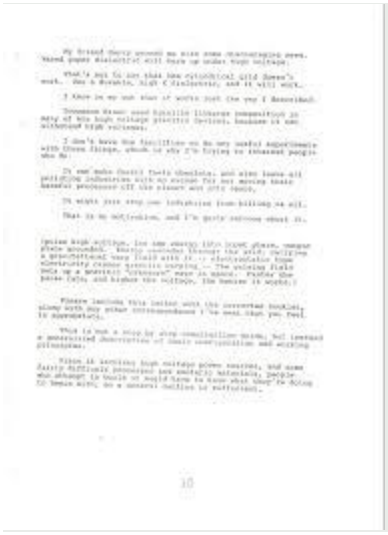




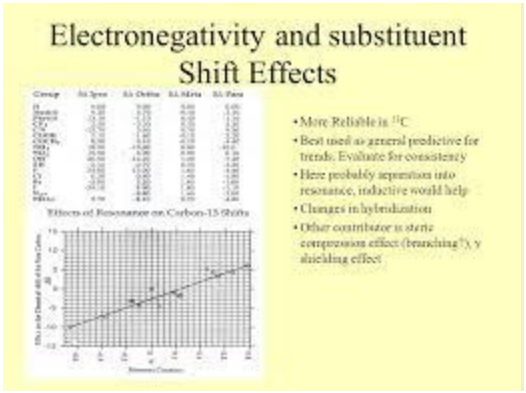


H 2.1																	He
Li 1.0	Be 1.5											B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne
Na 0.9	Mg 1.2											Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe 2.6
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une									

Ce 1.1	Pr 1.1	Nd 1.1	Pm 1.1	Sm 1.1	Eu 1.1	Gd 1.1	Tb 1.1	Dy 1.1	Ho 1.1	Er 1.1	Tm 1.1	Yb 1.1	Lu 1.2
Th 1.3	Pa 1.5	U 1.7	Np 1.3	Pu 1.3	Am 1.3	Cm 1.3	Bk 1.3	Cf 1.3	Es 1.3	Fm 1.3	Md 1.3	No 1.3	Lr





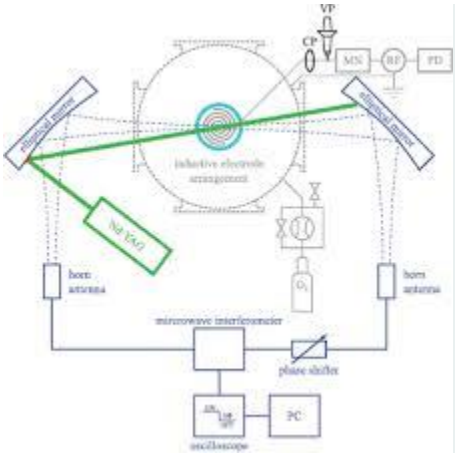




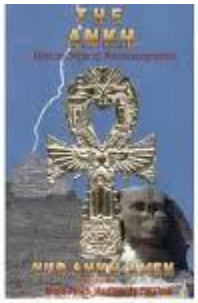
Chemical Shifts; Predicting and Additivity Rules

- Sometimes prediction works
- Better for carbon than for proton
- Multiple substitution can lead to push-pull deviations due to resonance, etc.
- Protons have larger relative effects on them from anisotropic neighboring fields mostly because the range of the shift domain is so small.
- Best efforts are in interpolation schemes based on mapping of assigned shifts in chemical-hood space
- **The good news is that relevant model compounds are really effective in predictive value**



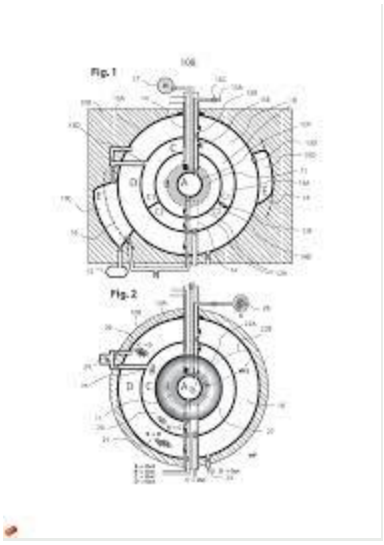


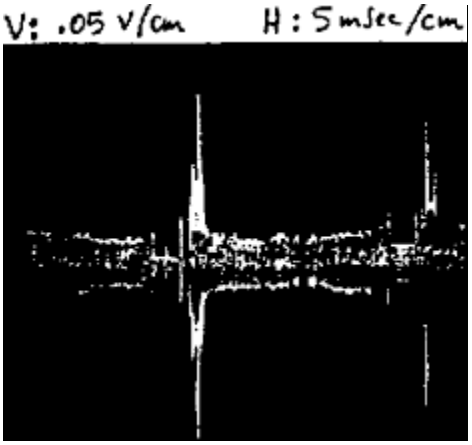


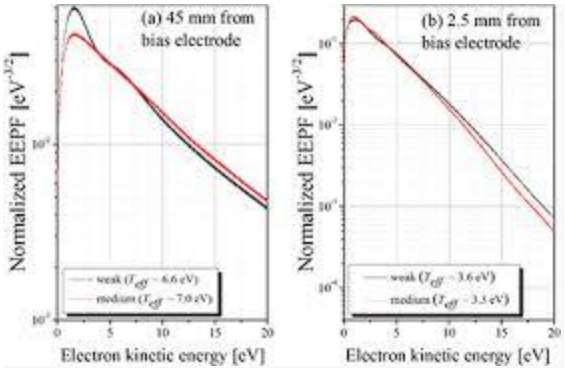


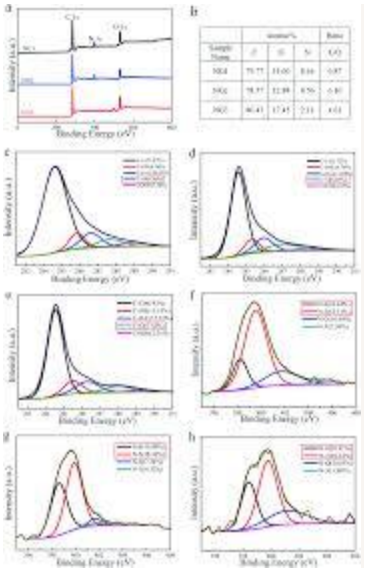
★★★★½ (85 Reviews)

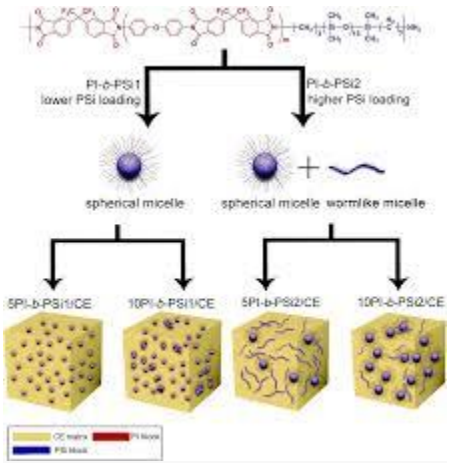
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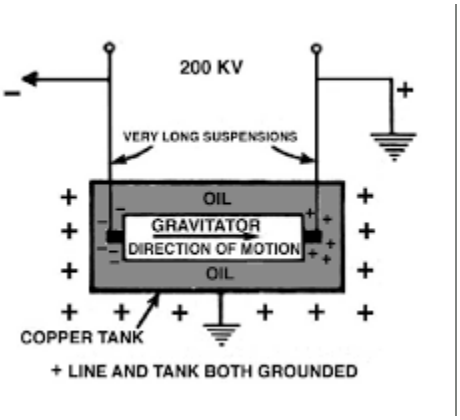


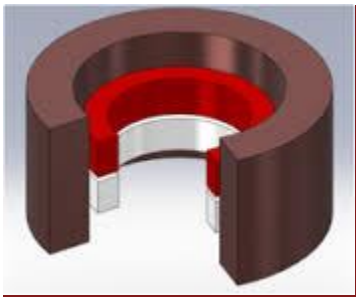



(a) 45 mm from bias electrode
(b) 2.5 mm from bias electrode
Normalized EEPF [eV^-3/2]
Electron kinetic energy [eV]
weak (T_{eff} ~ 6.6 eV)
medium (T_{eff} ~ 7.0 eV)
weak (T_{eff} ~ 3.6 eV)
medium (T_{eff} ~ 3.3 eV)



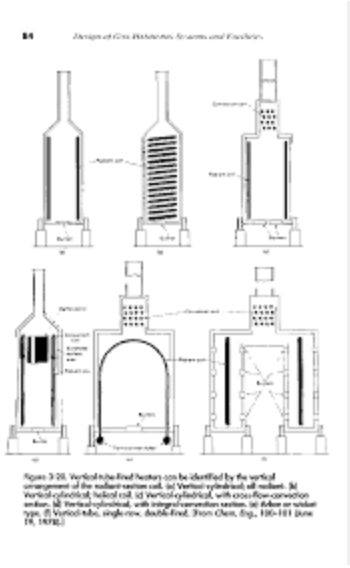

PI-b-PSI1
lower PSI loading
PI-b-PSI2
higher PSI loading
spherical micelle
spherical micelle
wormlike micelle
5PI-b-PSI1/CE
10PI-b-PSI1/CE
5PI-b-PSI2/CE
10PI-b-PSI2/CE

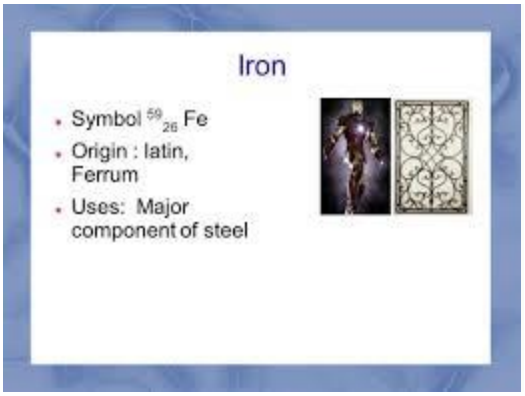

200 KV
VERY LONG SUSPENSIONS
OIL
GRAVITATOR
DIRECTION OF MOTION
OIL
COPPER TANK
+ LINE AND TANK BOTH GROUNDED

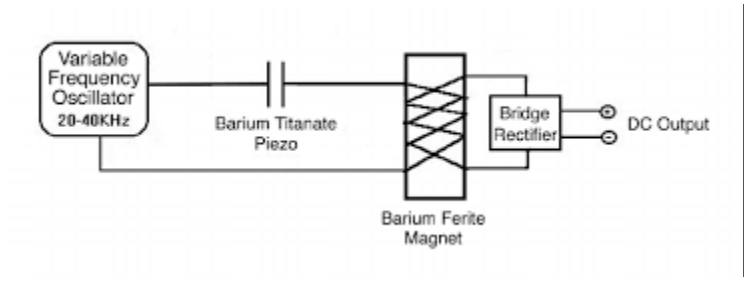


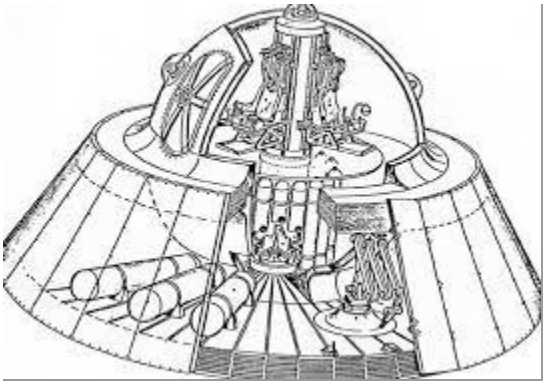


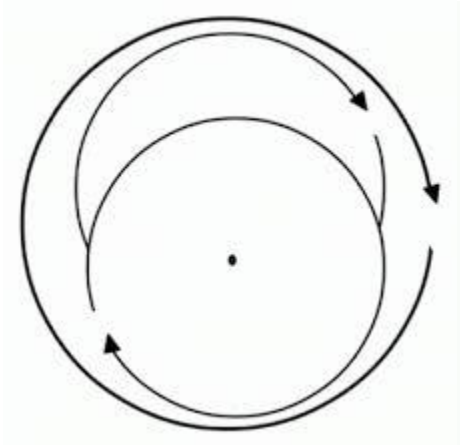


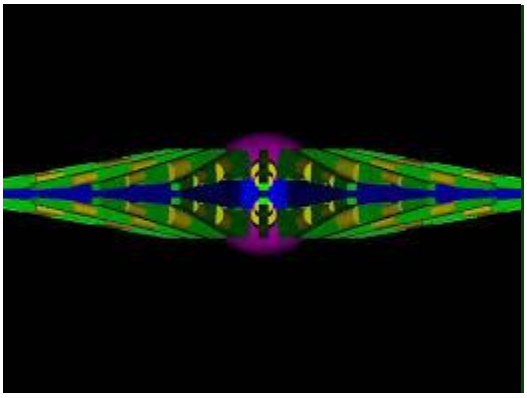


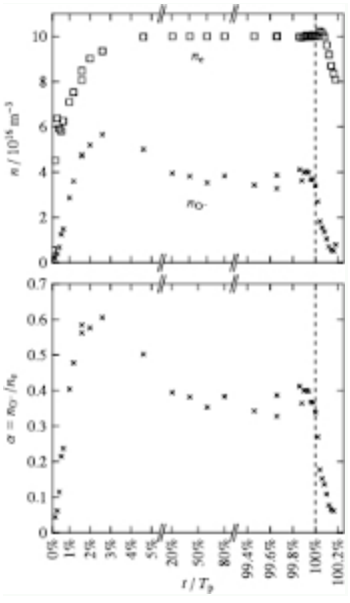

Iron
Symbol $^{59}_{26}$ Fe
Origin : latin, Ferrum
Uses: Major component of steel

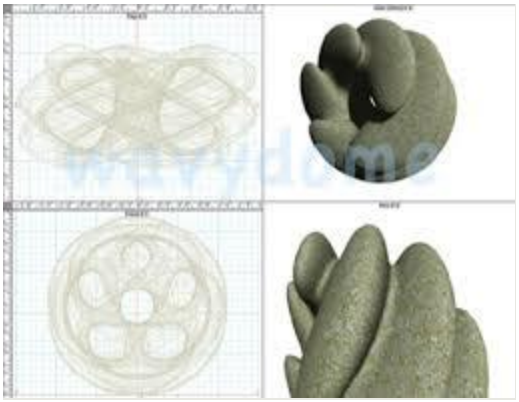

Variable Frequency Oscillator
20-40KHz
Barium Titanate Piezo
Bridge Rectifier
DC Output
Barium Ferite Magnet

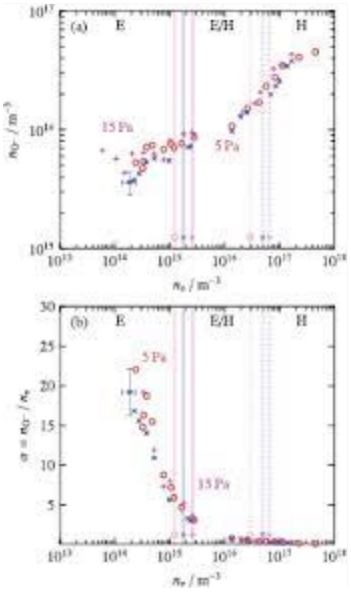




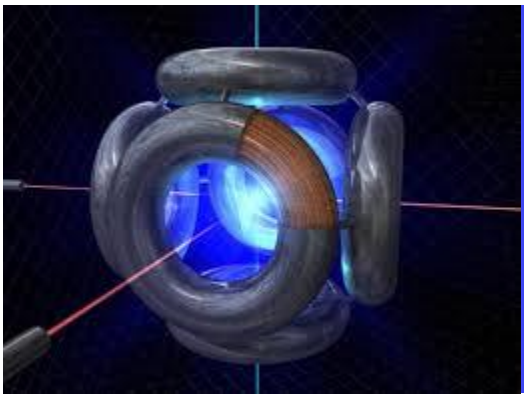



$n / 10^{15}$ m^{-3}
n_e
n_{O^-}
$\alpha = n_{O^-} / n_e$
t / T_p

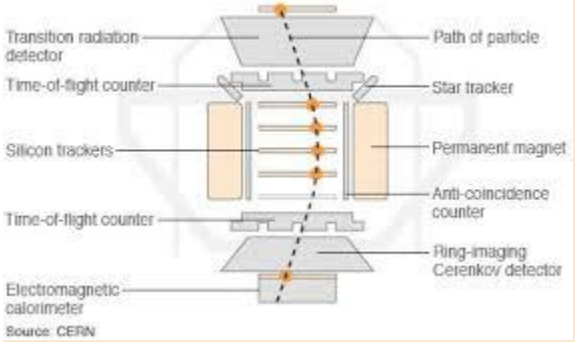




- The individual strands can form a helical coil called an alpha helix. *(primary structure)*
- These helical coils are called *secondary structures*.
- If the helical coils form spherical globular proteins or form fibrous proteins, then they form what are known as *tertiary structures*.
- Finally, the globular proteins may cluster together in groups to yield a *quaternary structure*.
- The different structures are caused by various intermolecular forces of attraction.







B. TRANSVERSE RELAXATION

- An excited nucleus may transfer its energy to an unexcited nucleus of a similar molecules that is nearby.
- In this process, the nearby unexcited nucleus becomes excited a the previously excited nucleus become unexcited.
- There is no net change in energy of the system, but the length of the time that one nucleus stays excited is shortened. This process, which is called transverse relaxation T_2



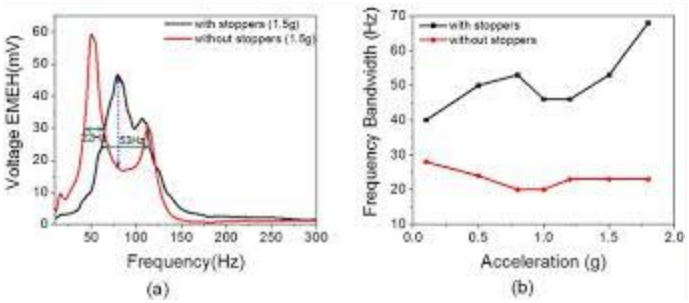


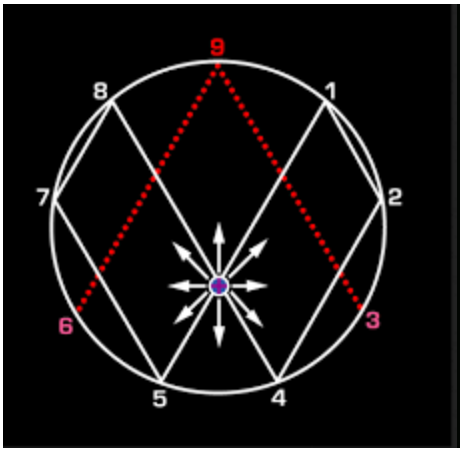
Factors to Affect ^{1}H Chemical Shift

Chemical shift : (1) electronegativity of nearby atoms, (2) hybridization of adjacent atoms, and (3) diamagnetic effects

Electronegativity

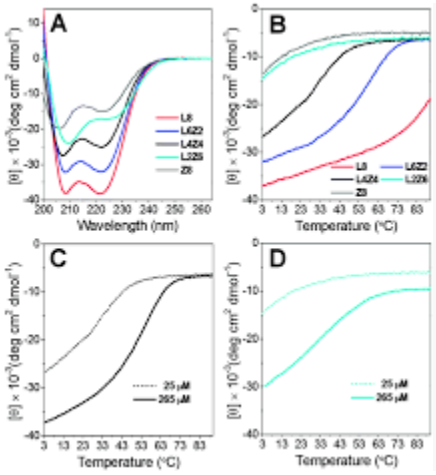
CH_3-X	Electronegativity of X	Chemical Shift (δ)
CH_3F	4.0	4.26
CH_3OH	3.5	3.47
CH_3Cl	3.1	3.05
CH_3Br	2.8	2.68
CH_3I	2.5	2.16
$(CH_3)_4C$	2.1	0.86
$(CH_3)_4Si$	1.8	0.00

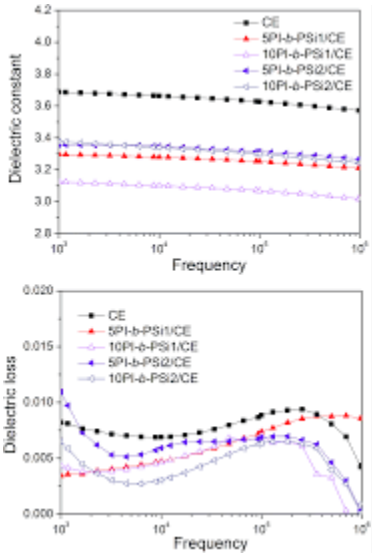

with stoppers (1.5g)
without stoppers (1.5g)
Voltage EMEH(mV)
Frequency(Hz)
(a)
with stoppers
without stoppers
Frequency Bandwidth (Hz)
Acceleration (g)
(b)

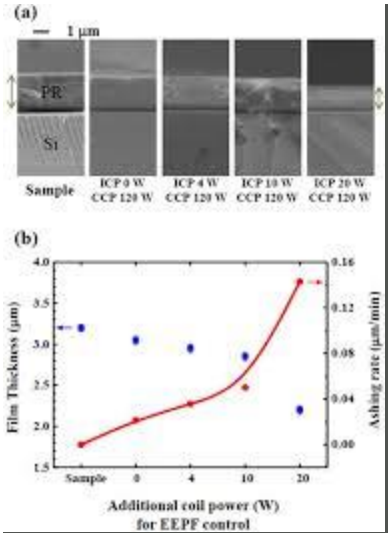

9
8
1
7
2
6
3
5
4

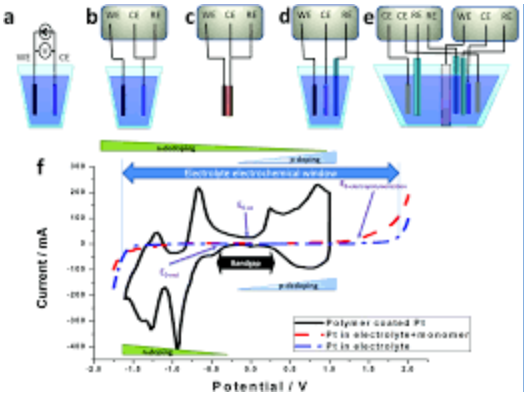


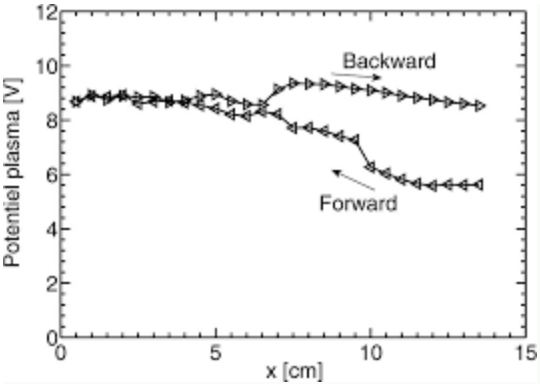


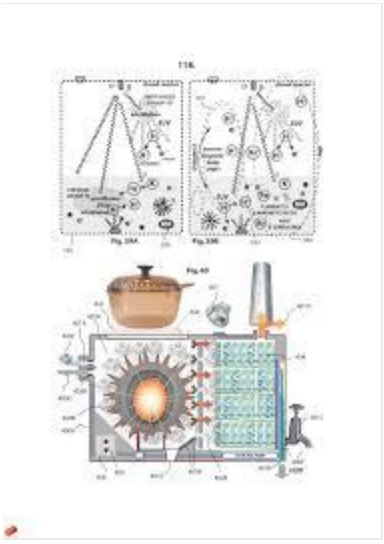

A
B
C
D
Wavelength (nm)
Temperature (°C)
L8
L622
L424
L225
Z8
25 μM
265 μM

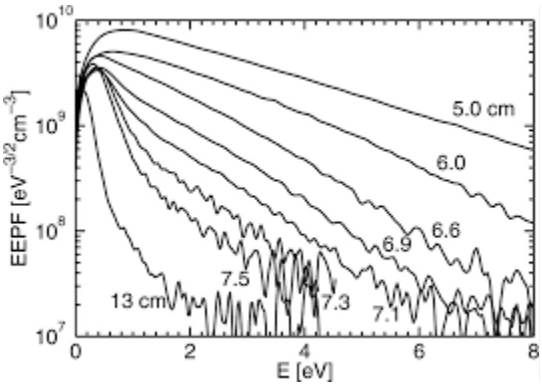

CE
5PI-b-PSi1/CE
10PI-ō-PSi1/CE
5PI-b-PSi2/CE
10PI-ō-PSi2/CE
Dielectric constant
Frequency
Dielectric loss
Frequency


(a)
1 μm
PR
Si
Sample
ICP 0 W CCP 120 W
ICP 4 W CCP 120 W
ICP 10 W CCP 120 W
ICP 20 W CCP 120 W
(b)
Film Thickness (μm)
Ashing rate (μm/min)
Sample
Additional coil power (W) for EEPF control

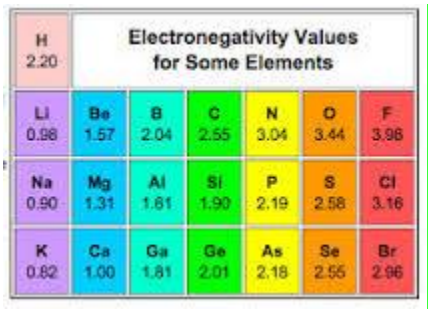

a
b
c
d
e
f
Current / mA
Potential / V
Polymer coated Pt
Pt in electrolyte+monomer
Pt in electrolyte


Potentiel plasma [V]
x [cm]
Backward
Forward

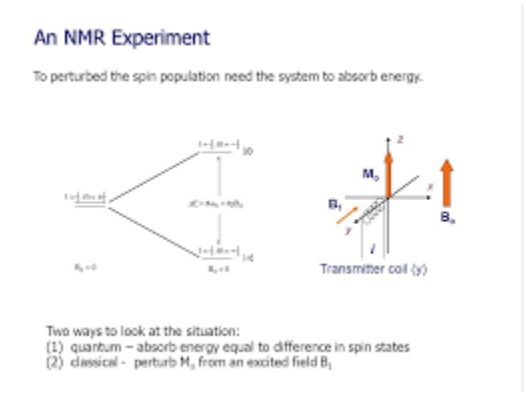



EEPF [eV$^{-3/2}$cm^{-3}]
E [eV]
5.0 cm
6.0
6.6
6.9
7.1
7.3
7.5
13 cm

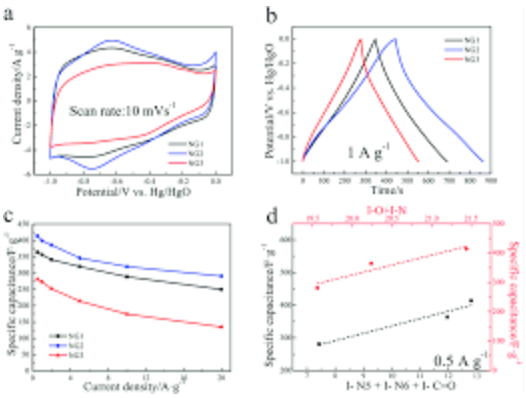


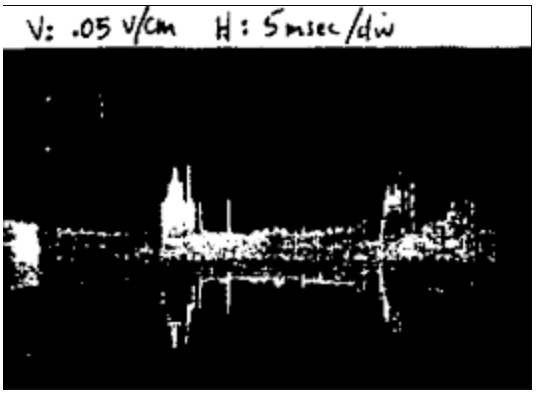

Electronegativity Values for Some Elements
H 2.20
Li 0.98
Be 1.57
B 2.04
C 2.55
N 3.04
O 3.44
F 3.98
Na 0.90
Mg 1.31
Al 1.61
Si 1.90
P 2.19
S 2.58
Cl 3.16
K 0.82
Ca 1.00
Ga 1.81
Ge 2.01
As 2.18
Se 2.55
Br 2.96




An NMR Experiment
To perturbed the spin population need the system to absorb energy.
Transmitter coil (y)
Two ways to look at the situation:
(1) quantum – absorb energy equal to difference in spin states
(2) classical - perturb M_o from an excited field B_1







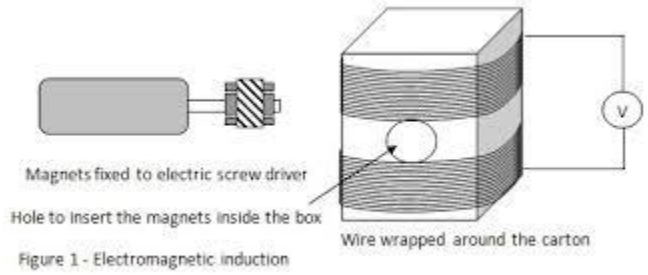


Figure 1 - Electromagnetic induction

$$(1)\ \mathrm{CP} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \mathrm{e}^-$$

$$(2)\ \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \mathrm{e}^-$$

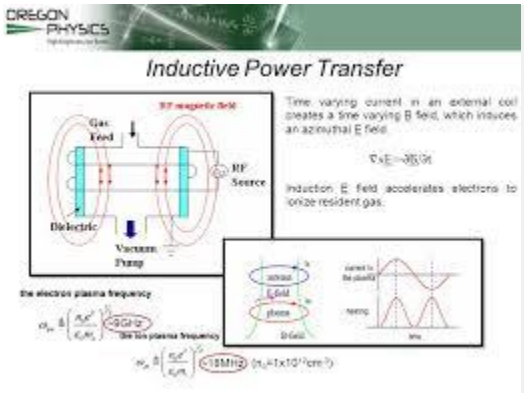
$$(3)\ \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \mathrm{e}^-$$

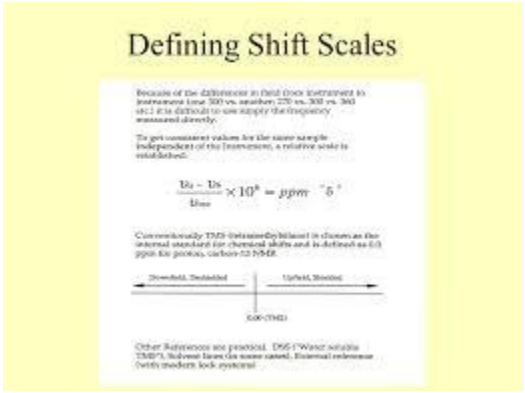
$$(4)\ \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \mathrm{e}^-$$

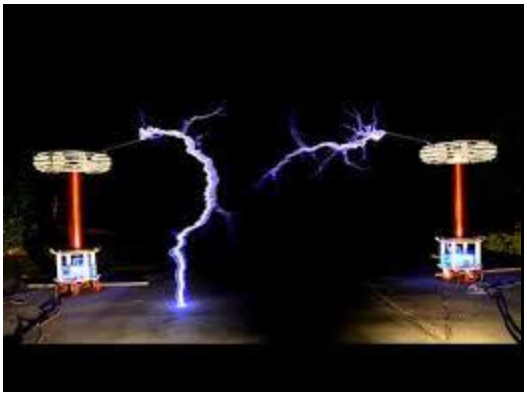
$$(5)\ \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{5+}\right)\left(\mathrm{A}^-\right)_5 + \mathrm{e}^-$$

...

$$(6)\ \left(\mathrm{CP}^{(n-1)+}\right)\left(\mathrm{A}^-\right)_{(n-1)} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{n+}\right)\left(\mathrm{A}^-\right)_n + \mathrm{e}^-$$







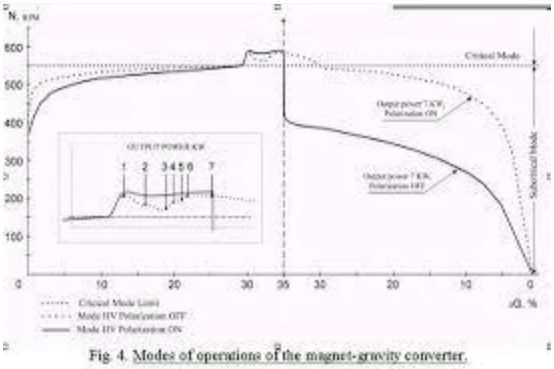
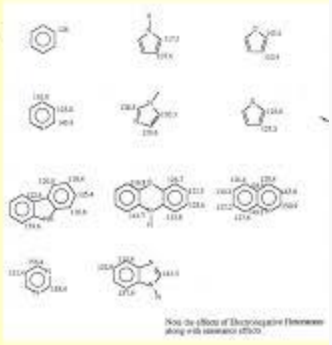


Fig. 4. Modes of operations of the magnet-gravity converter.



Electronegativity Effects on ^{13}C Shifts

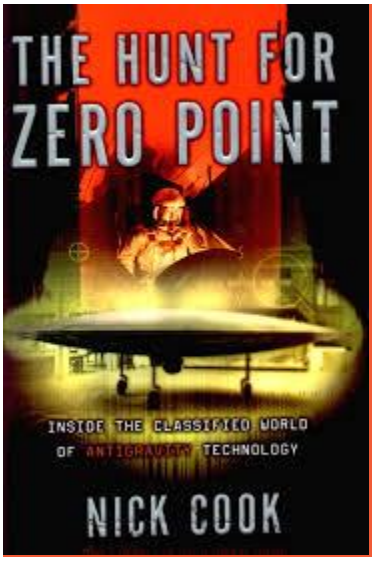
No Surprises Here

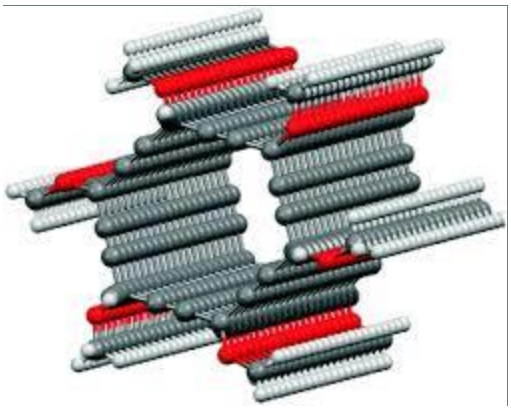


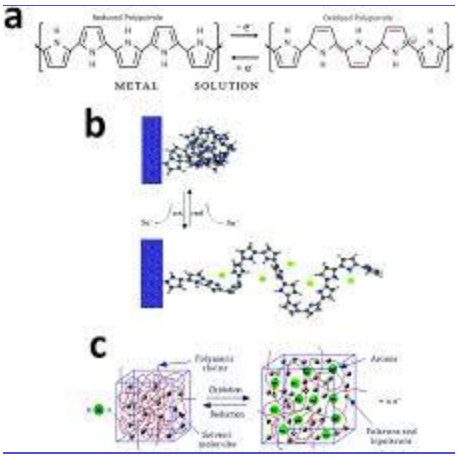
Infolded Engines: Excluded by Present Physics

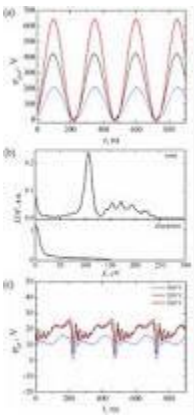
- ***The infolded dynamics of EM systems are not considered in general relativity, electromagnetics, or quantum mechanics***
- ***None of these disciplines include such*** *spacetime curvature engines (vacuum engines)*
- ***Thus GR, EM, and QM cannot be unified, since ST curvature engines are where the unification mainly occurs***

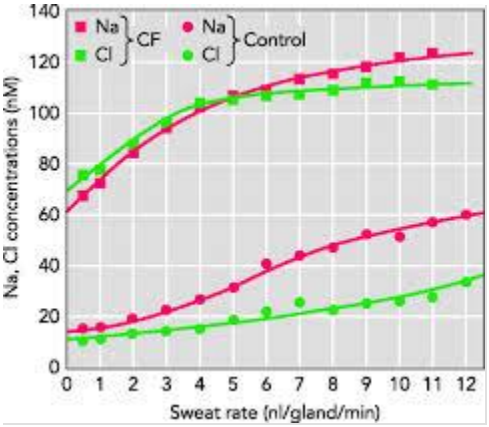
© 1998 T.E. BEARDEN

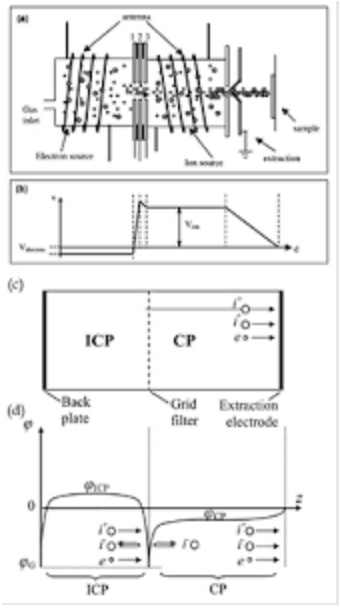


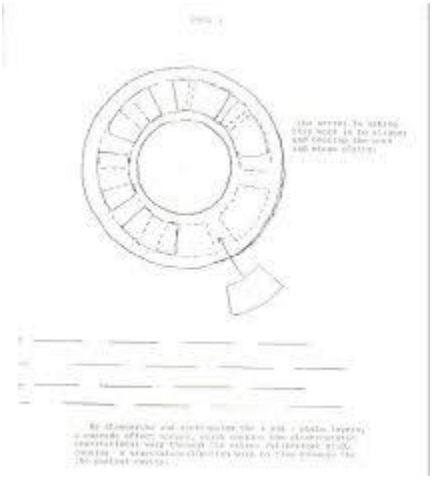


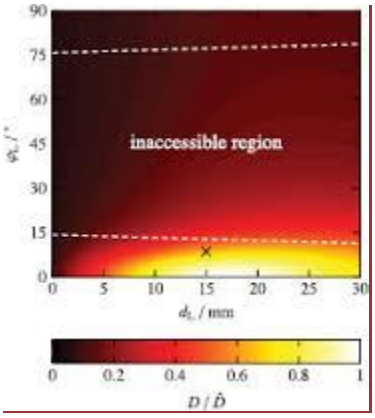


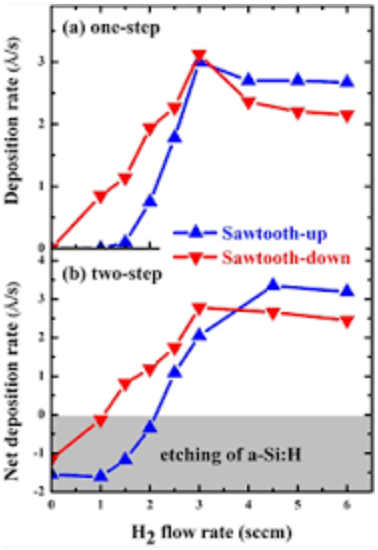












RADIO FREQUENCY RECEIVER OR DETECTOR

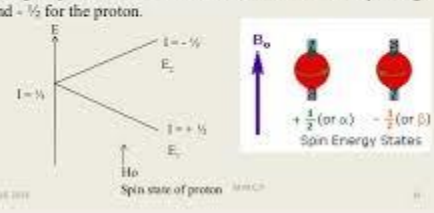
- A few turns of wire is wound around the sample tube lightly. The receiver coil is perpendicular to both the external magnetic and radiofrequency transmitter coil.
- When RF radiation is passed through the magnetised sample, resonance occurs which cause the current voltage across the coil to drop.
- This electrical signal is small and is usually amplified before recording.

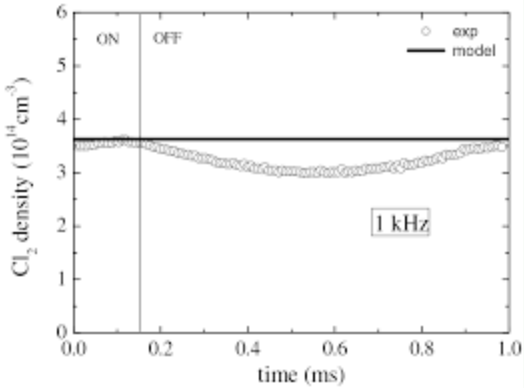
Detection of NMR.

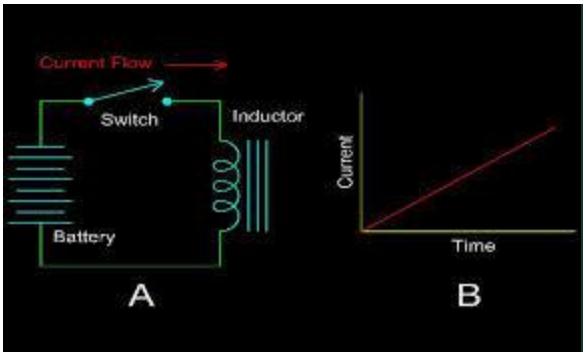
- When the radiofrequency radiation is passed through the magnetised sample two phenomena namely absorption and dispersion may occur.
- The absorption of either signal will enable the resonance frequency to be determined. It is found that the interpretation of absorption spectrum is easier as compared to the dispersion spectrum.
- The detector should be capable of separating absorption signal from dispersion signals.

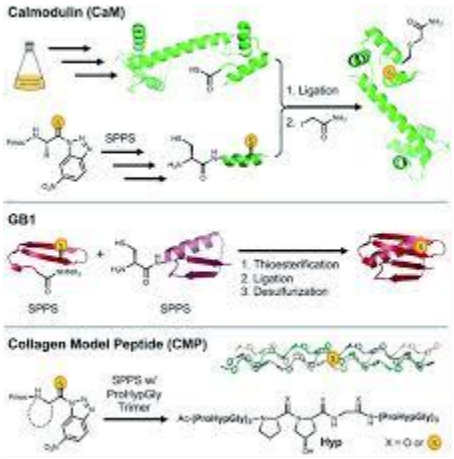
THEORY AND PRINCIPLE

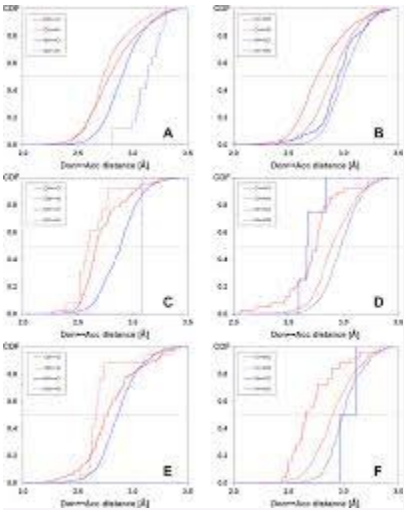
- The NMR is mostly consult with nucleus spin quantum no. (I)= ½ , The proton having a I = ½ when place in external magnetic field (Ho) it's start to spin around the nuclear axis and generate a another magnetic field.
- According to quantum mechanics there are 2I + 1 so two spin stage + ½ and - ½ for the proton.

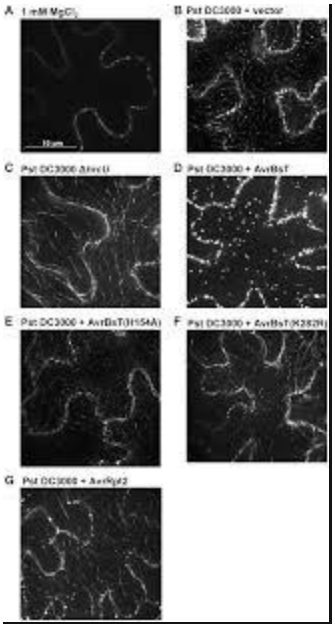


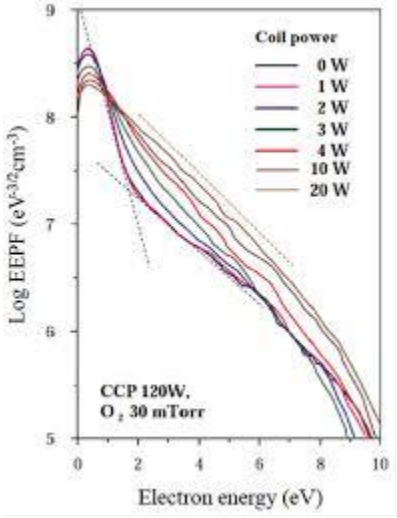


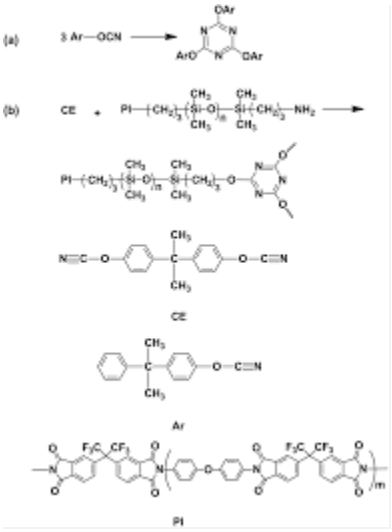

Current Flow
Switch
Inductor
Battery
Current
Time
A
B

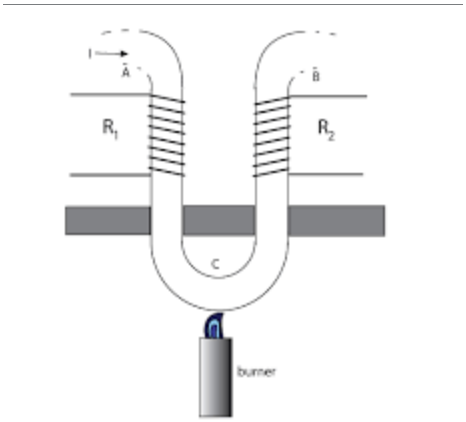

Calmodulin (CaM)
1. Ligation
2.
SPPS
GB1
1. Thioesterification
2. Ligation
3. Desulfurization
SPPS
SPPS
Collagen Model Peptide (CMP)
SPPS w/
Pro-Hyp-Gly
Trimer
Hyp

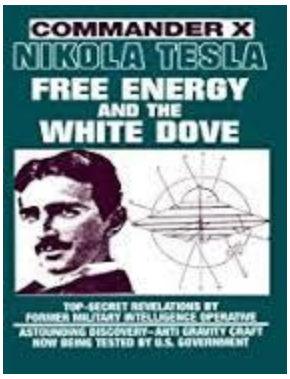

A
B
C
D
E
F


A
B
C
D
E
F
G


Coil power
0 W
1 W
2 W
3 W
4 W
10 W
20 W
Log EEPF (eV-3/2cm-3)
Electron energy (eV)
CCP 120W,
O2 30 mTorr

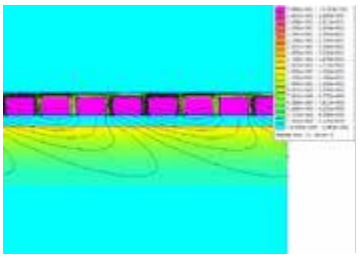

(a)
(b)
CE
Ar
PI

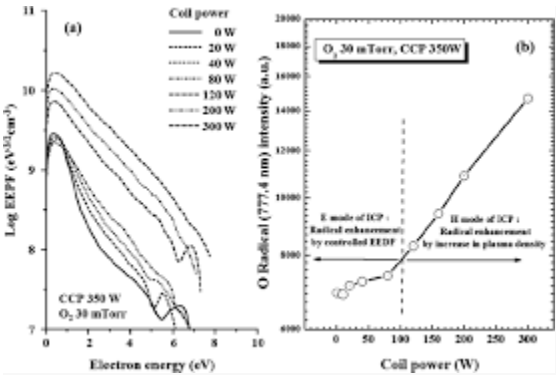

I
A
B
R1
R2
C
burner

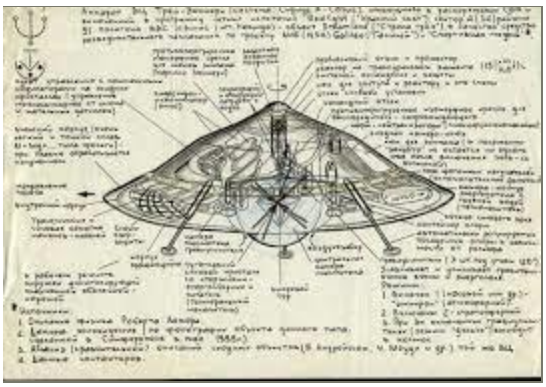

COMMANDER X
NIKOLA TESLA
FREE ENERGY
AND THE
WHITE DOVE
TOP-SECRET REVELATIONS BY
FORMER MILITARY INTELLIGENCE OPERATIVE
ASTOUNDING DISCOVERY–ANTI GRAVITY CRAFT
NOW BEING TESTED BY U.S. GOVERNMENT



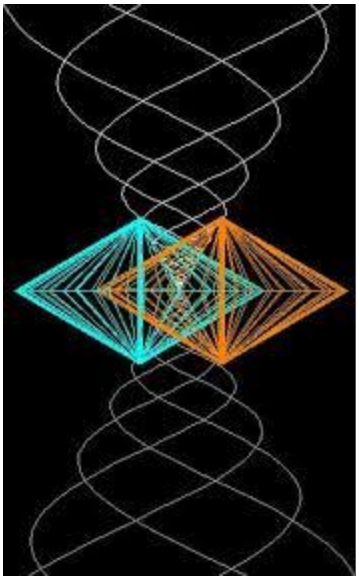




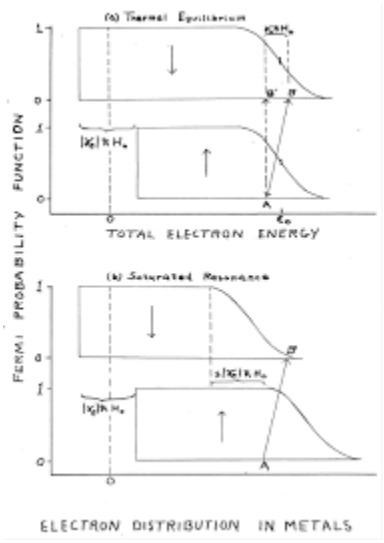

(a)
Coil power
0 W
20 W
40 W
80 W
120 W
200 W
300 W
CCP 350 W
O2 30 mTorr
Log EEPF (eV-3/2cm-3)
Electron energy (eV)
(b)
O2 30 mTorr, CCP 350W
E mode of ICP :
Radical enhancement
by controlled EEDF
H mode of ICP :
Radical enhancement
by increase in plasma density
O Radical (777.4 nm) intensity (a.u.)
Coil power (W)

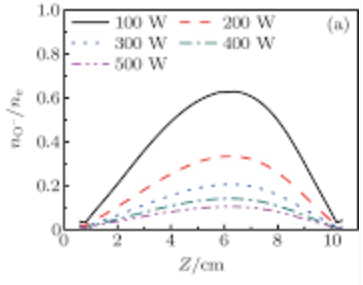


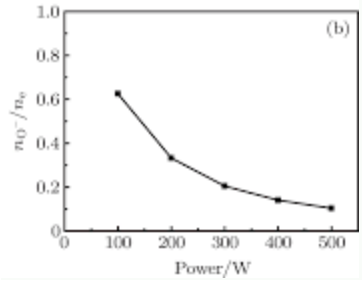


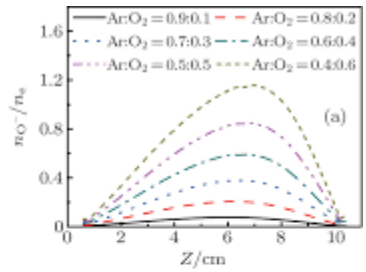


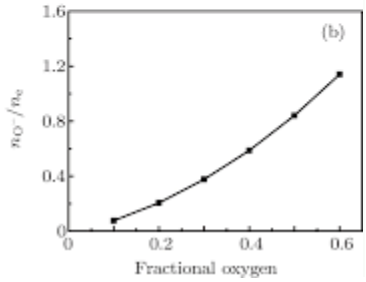

FREE ENERGY PIONEERS:
John Worrell Keely

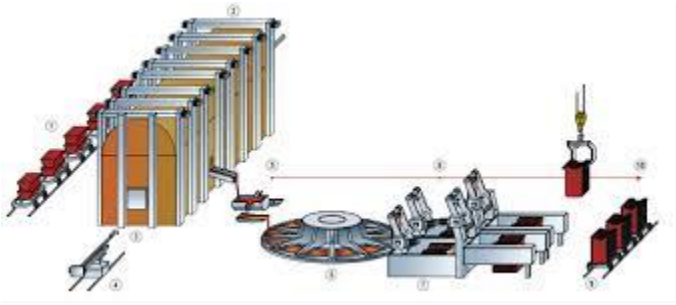

(a) Thermal Equilibrium
(b) Saturated Resonance
FERMI PROBABILITY FUNCTION
TOTAL ELECTRON ENERGY
ELECTRON DISTRIBUTION IN METALS

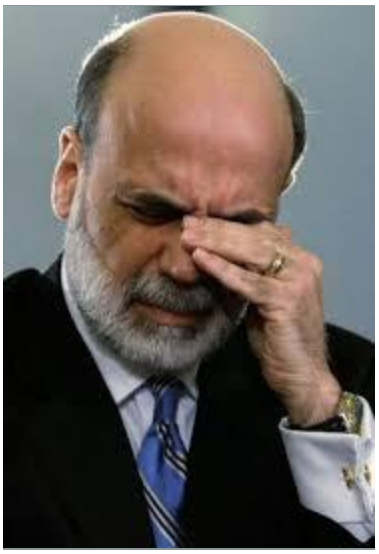

100 W
200 W
300 W
400 W
500 W
(a)
n_{O^-}/n_e
Z/cm


(b)
n_{O^-}/n_e
Power/W

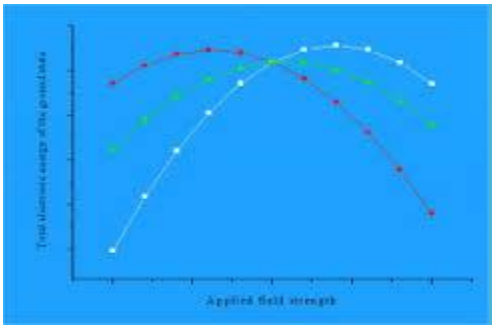

$Ar:O_2 = 0.9:0.1$
$Ar:O_2 = 0.8:0.2$
$Ar:O_2 = 0.7:0.3$
$Ar:O_2 = 0.6:0.4$
$Ar:O_2 = 0.5:0.5$
$Ar:O_2 = 0.4:0.6$
(a)
n_{O^-}/n_e
Z/cm

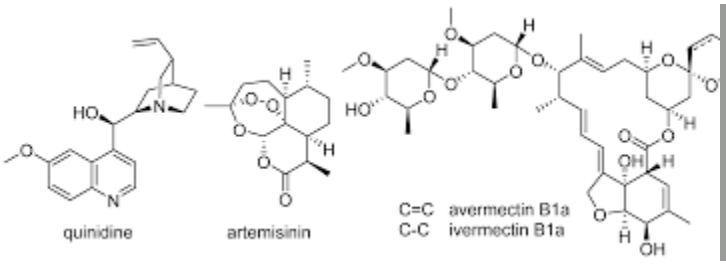

(b)
n_{O^-}/n_e
Fractional oxygen



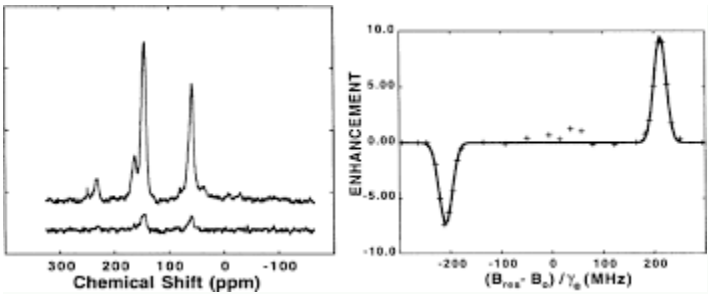


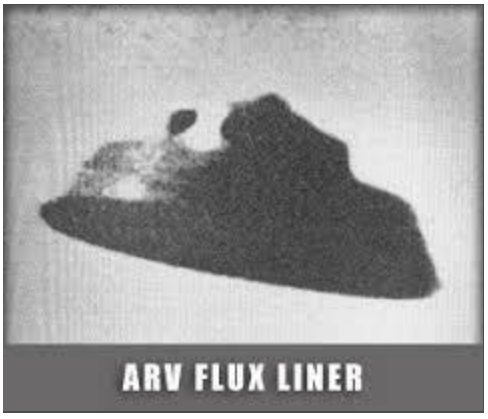

BASIC STRUCTURES OF MATTER
SUPERGRAVITATION UNIFIED THEORY
ALTERNATIVE COSMOLOGY
HIDDEN SPACE ENERGY
STOYAN SARG

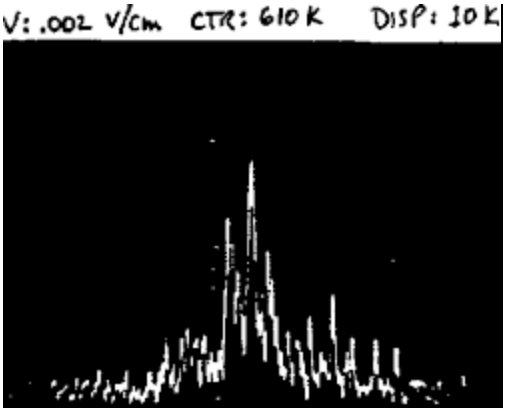


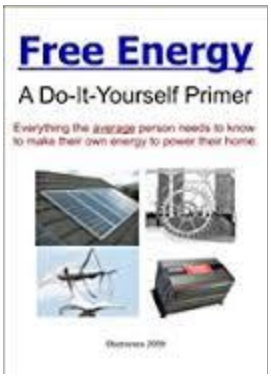

quinidine
artemisinin
C=C avermectin B1a
C-C ivermectin B1a




Chemical Shift (ppm)
ENHANCEMENT
(B_res - B_o) / γ_e (MHz)


ARV FLUX LINER

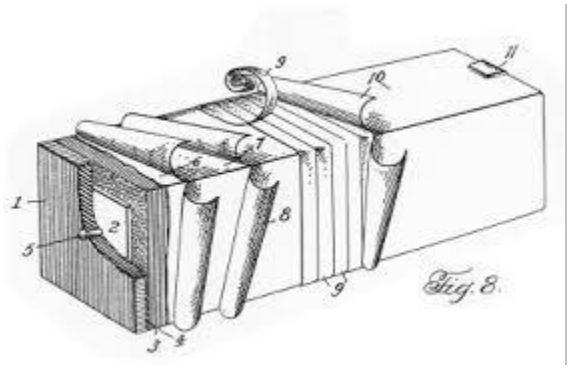

V: .002 V/cm CTR: 610 K DISP: 10 K

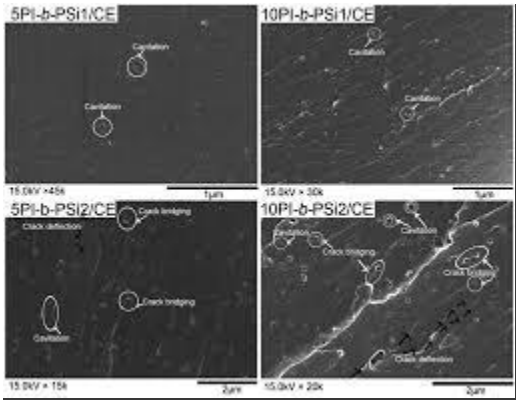

Free Energy
A Do-It-Yourself Primer
Everything the average person needs to know to make their own energy to power their home.



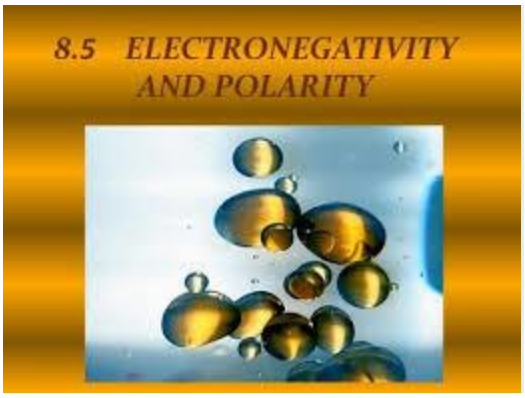

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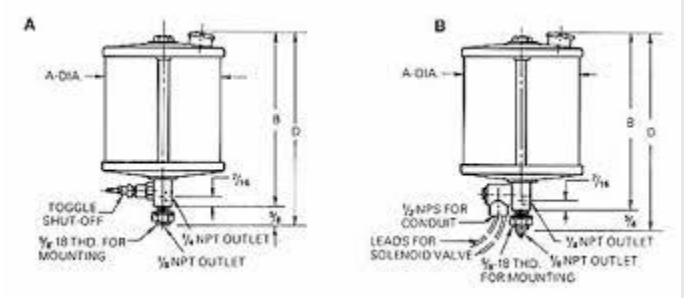



Fig. 8.


5PI-b-PSi1/CE
10PI-b-PSi1/CE
5PI-b-PSI2/CE
10PI-b-PSi2/CE




8.5 ELECTRONEGATIVITY AND POLARITY


A
A-DIA
TOGGLE SHUT-OFF
⅜-18 THD. FOR MOUNTING
¼ NPT OUTLET
⅛ NPT OUTLET
B
A-DIA
⅛ NPS FOR CONDUIT
LEADS FOR SOLENOID VALVE
⅜-18 THD. FOR MOUNTING
¼ NPT OUTLET
⅛ NPT OUTLET



Part III
Electricity

Electricity deals with stationary and moving electric charges, the actions of force between them, and the electric and magnetic fields generated by them.

There are applications of electricity in these fields:

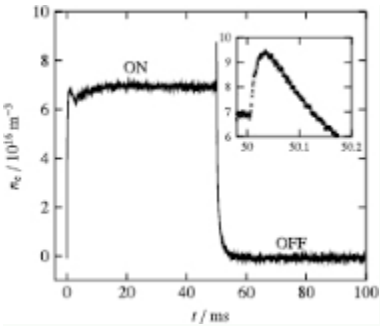
- electrical engineering, e.g., in direct-current, alternating-current and three-phase-current engineering, in calculations of circuits, and in the construction of generators and motors;
- electrochemistry, e.g., in charge transport in electrolytes, and in the production of batteries;
- electronics, e.g., in development and application of electronic components in analog and digital electronics, and in the development of computers;
- plasma physics, e.g., in generation of light, materials processing, energy production and formation of ion beams from ion sources;
- accelerator physics, in the transport and acceleration of ions and electrons;
- telecommunications engineering, information processing, signal processing.

Furthermore, electricity is of basic importance for the fields:

- atomic physics, and
- solid-state physics.

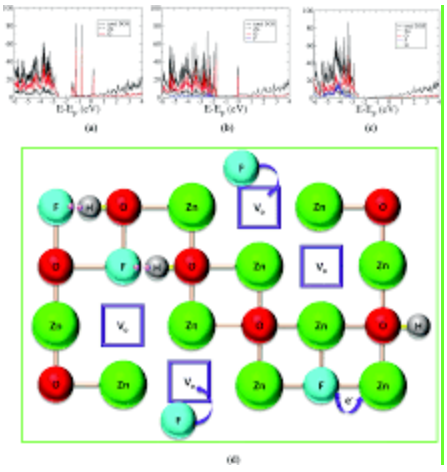


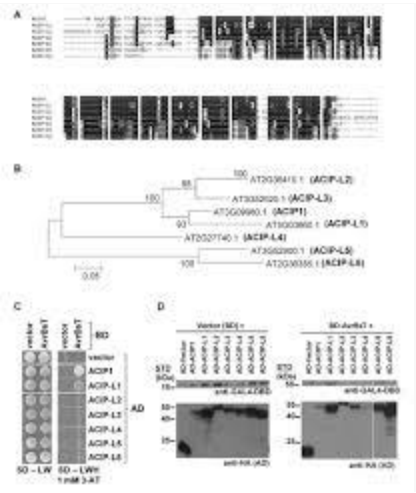


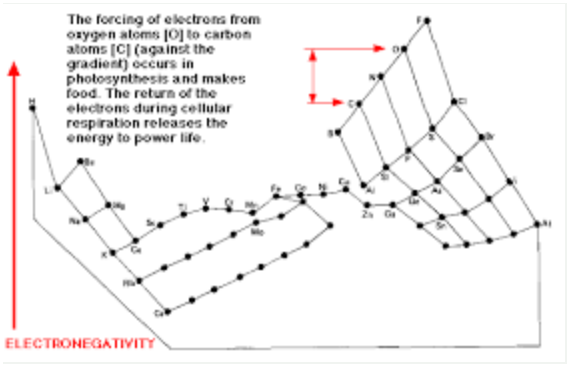






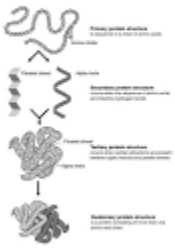


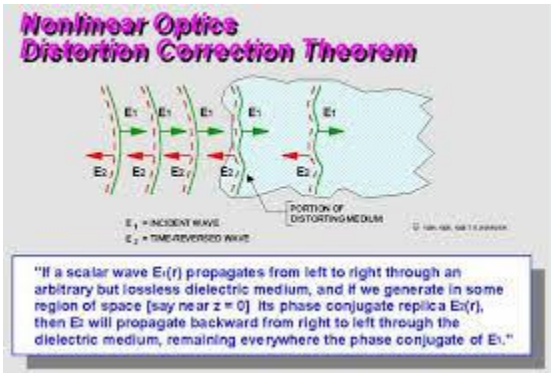


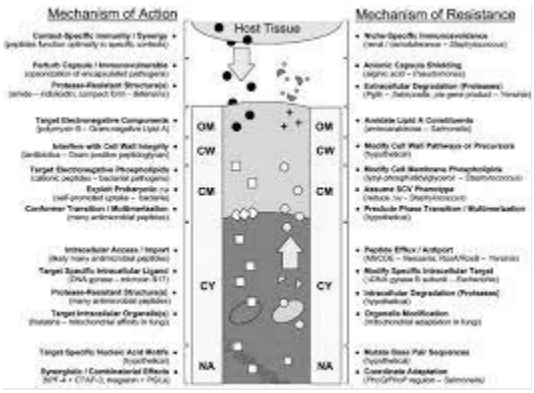


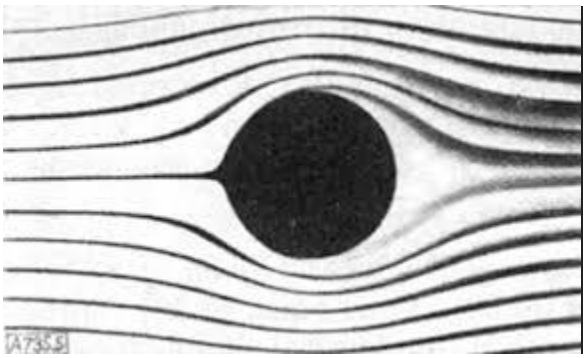
Protein Structure

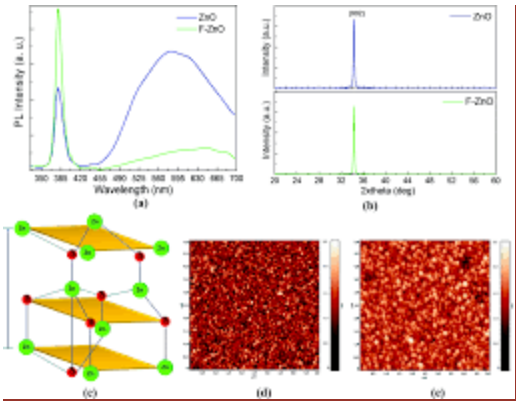
- Classification of protein structure:
 - primary: amino acid sequence;
 - secondary : alpha helix, beta sheet, random coil (i.e. something more complex);
 - tertiary: overall shape of polypeptide;
 - quaternary: how all subunits and co-factors fit together.

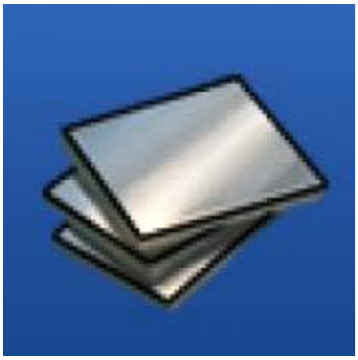


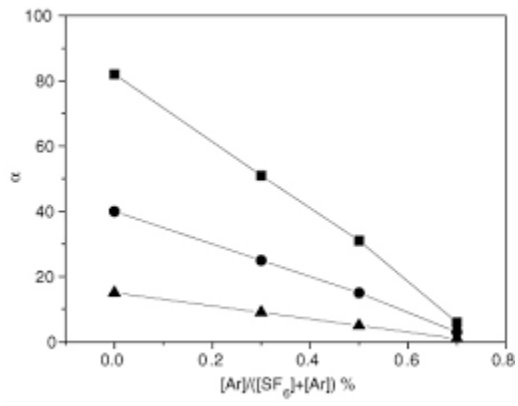


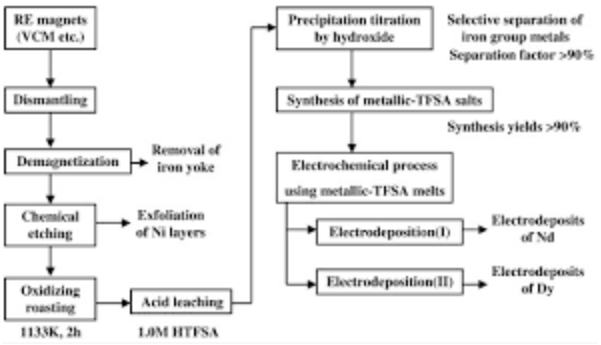




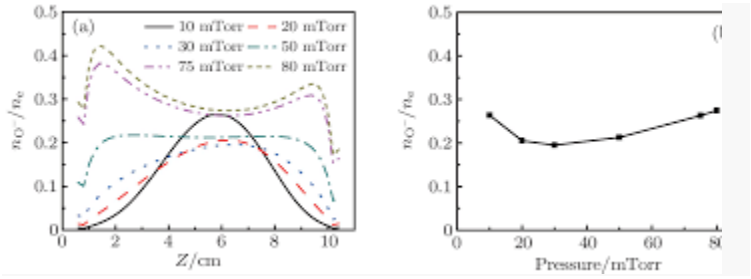




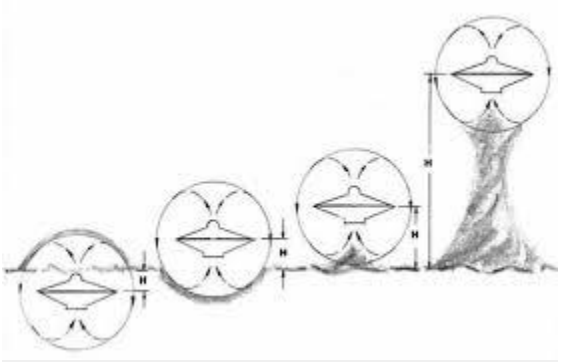


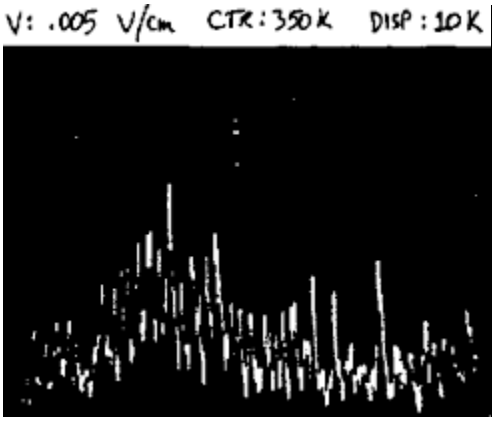

RE magnets (VCM etc.)
Dismantling
Demagnetization
Removal of iron yoke
Chemical etching
Exfoliation of Ni layers
Oxidizing roasting
1133K, 2h
Acid leaching
1.0M HTFSA
Precipitation titration by hydroxide
Selective separation of iron group metals
Separation factor >90%
Synthesis of metallic-TFSA salts
Synthesis yields >90%
Electrochemical process using metallic-TFSA melts
Electrodeposition(I)
Electrodeposits of Nd
Electrodeposition(II)
Electrodeposits of Dy


Dino-power

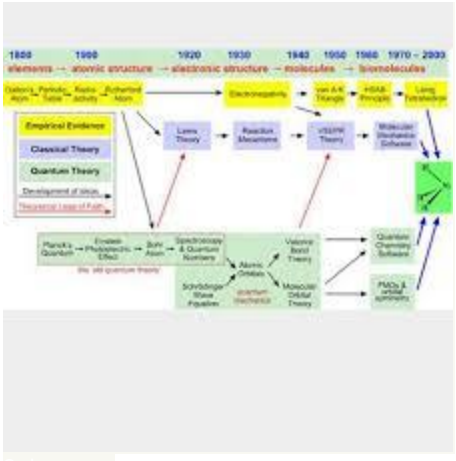

(a)
10 mTorr
20 mTorr
30 mTorr
50 mTorr
75 mTorr
80 mTorr
n_O^-/n_e
Z/cm
Pressure/mTorr

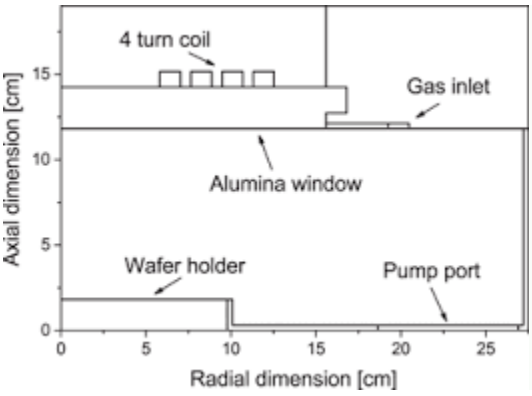

angelfire.com/ak/vogel


H
H
H
H


V: .005 V/cm CTR: 350K DISP: 10K




1800
1900
1920
1930
1940
1950
1960
1970 - 2000
elements → atomic structure → electronic structure → molecules → biomolecules
Empirical Evidence
Classical Theory
Quantum Theory
Development of ideas
Theoretical basis of Faith
2 days ago


4 turn coil
Gas inlet
Alumina window
Wafer holder
Pump port
Axial dimension [cm]
Radial dimension [cm]



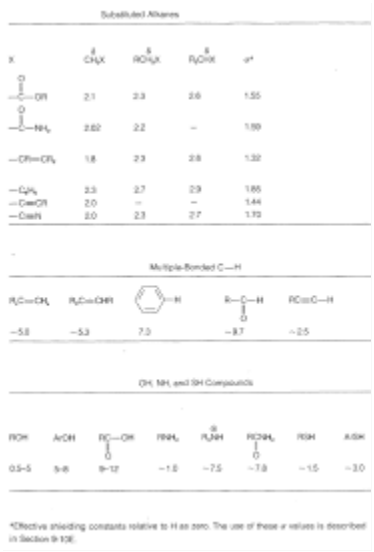
2 days ago











Substituted Alkanes

X	CH_3X	RCH_2X	R_2CHX	R_3CX
—C(=O)—OR	2.1	2.3	2.6	1.55
—C(=O)—NH_2	2.62	2.2	–	1.59
—CH=CH_2	1.8	2.3	2.6	1.32
—C_6H_5	2.3	2.7	2.9	1.85
—C≡N	2.0	2.3	2.7	1.70

Multiple-Bonded C—H

H_2C=CH—	H_2C=C(OR)—		R—C(=O)—H	RC≡C—H
−5.8	−5.3	7.0	−9.7	−2.5

OH, NH, and SH Compounds

ROH	ArOH	RC(=O)—OH	RNH_2	R_2NH	RC(=O)NH_2	RSH	ArSH
0.5–5	5–6	9–12	~1.5	~7.5	~7.8	~1.5	~3.0

*Effective shielding constants relative to H as zero. The use of these σ values is described in Section 9-10E.

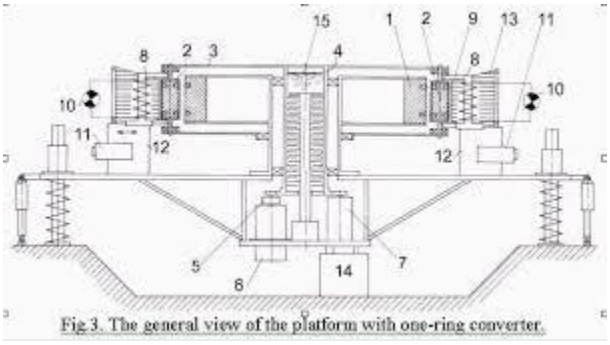
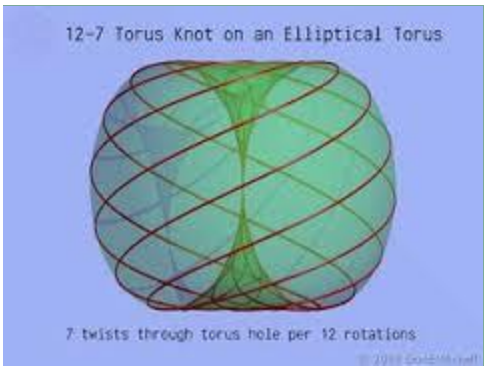
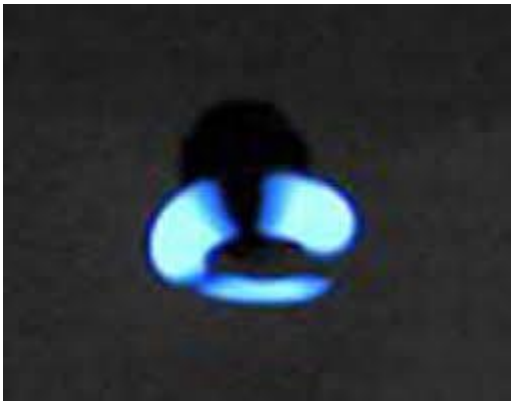
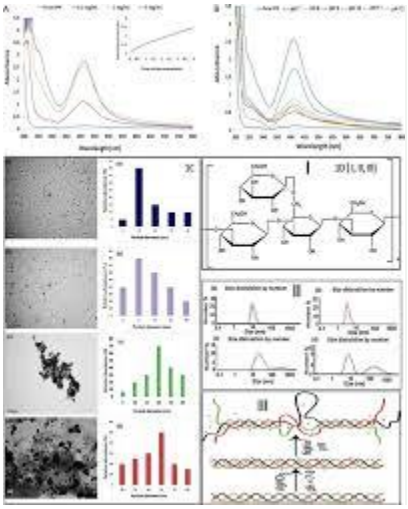


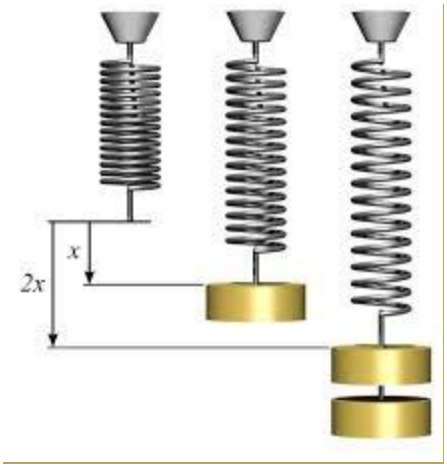
Fig.3. The general view of the platform with one-ring converter.





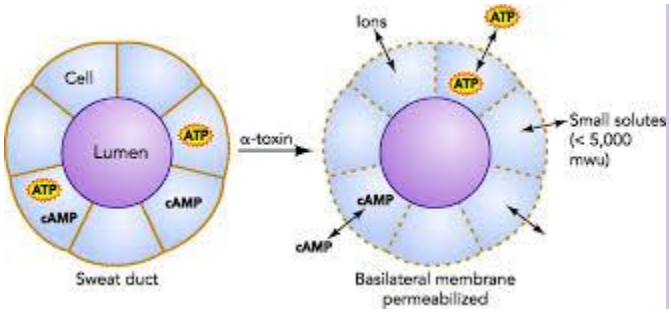






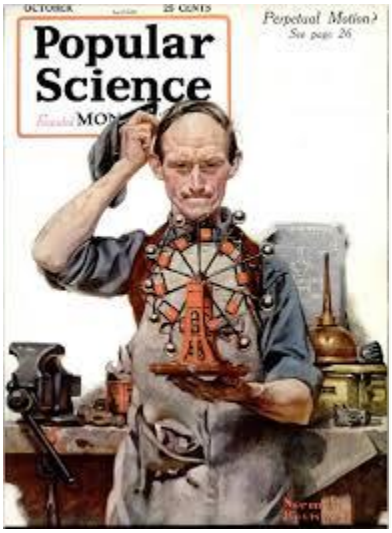
Category ID/L16	Descriptor	Ethidium bromide	DAPI[1,2]	Evans blue	Hoechst iodide	Methylene blue	Proxion orange MX2R	Propidium iodide	Ethidium homodimer-2	IBIG
Electronegativity	TD66x	41.75	45.01	53.62	42.16	45.98	51.98	41.20	41.16	42.90 ↑
	ATSC5x	−0.13	1.50	−211.14	2.02	1.81	−37.62	8.71	15.42	8.61 ↓
	GATS5x	0.67	0.77	1.25	0.66	0.77	1.07	0.57	0.56	0.54 ↑
Ionization potential	TD68	1,254.65	1,362.00	1,231.16	1,198.56	1,312.73	1,168.57	1,171.55	1,170.16	1,103.36 ↑
	TD610	1,616.65	1,733.37	1,480.62	1,518.93	1,773.06	1,461.99	1,402.90	1,418.41	1,296.59 ↑
Polarizability	TD6p	8.32	8.26	8.61	8.51	9.33	10.12	7.71	7.66	7.67 ↑
Size and geometry	TD6v	1.82	1.87	2.29	1.88	2.00	2.49	1.71	1.76	1.71 ↑
	TD6x	1,080.21	1,100.05	1,300.31	1,114.43	1,121.27	1,460.71	1,055.29	1,039.36	1,016.74 ↑
	TD6u	4.91	4.90	4.99	4.94	4.87	5.04	4.68	4.74	4.60 ↑
Topological flexibility	RotBFrac	0.19	0.22	0.30	0.29	0.23	0.27	0.35	0.32	0.34 ↓
Valence	VP-0	2.15	1.04	2.57	2.72	1.82	1.95	2.15	2.00	2.00 ↓

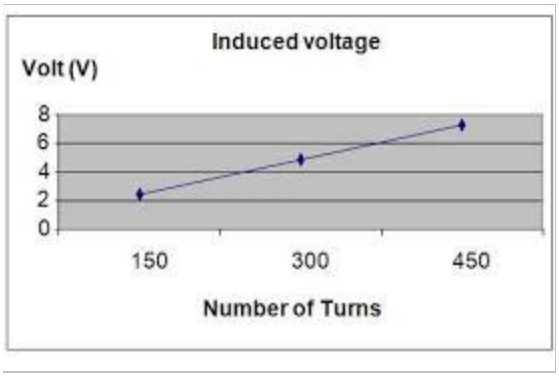
↑ All values of permeable molecules are higher than values of impermeant ones.
↓ All values of permeable molecules are lower than values of impermeant ones.





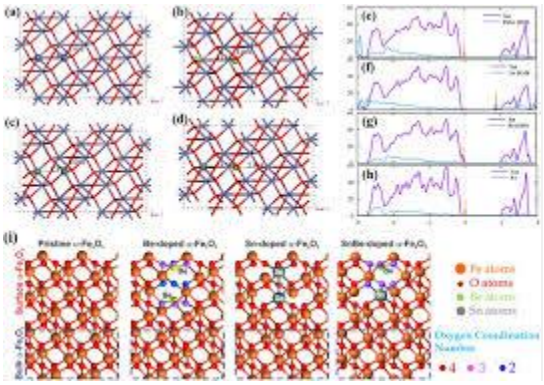


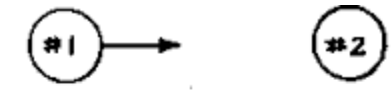




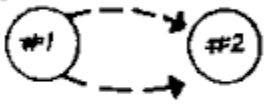




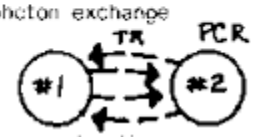




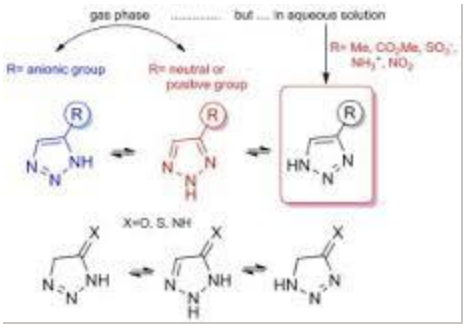
A: Approach

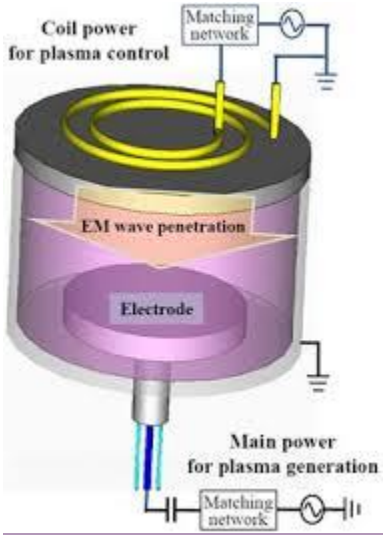


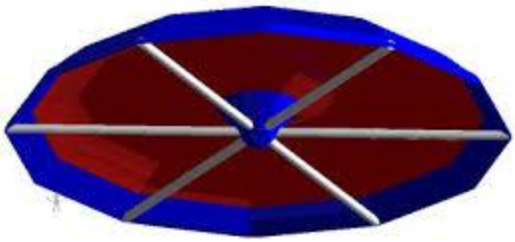
B: Virtual photon exchange

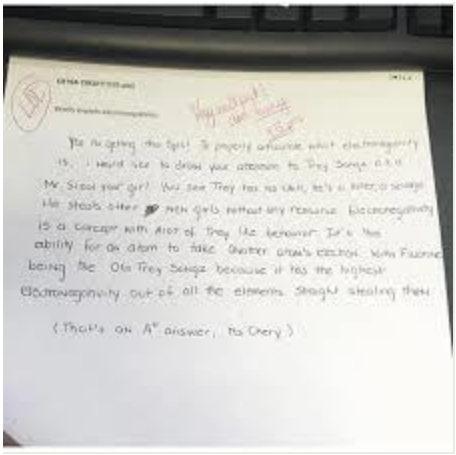


C: With phase conjugation



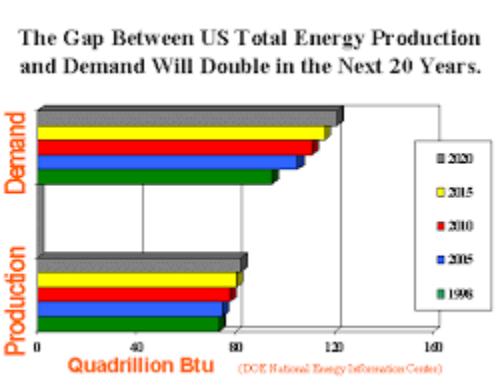


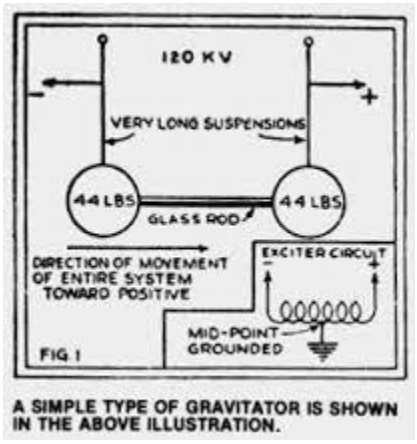


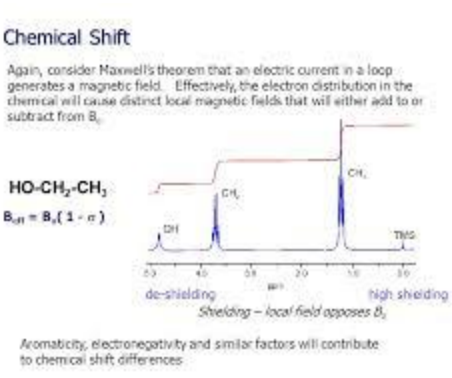



109 122
dzcott.com/HomeTronics

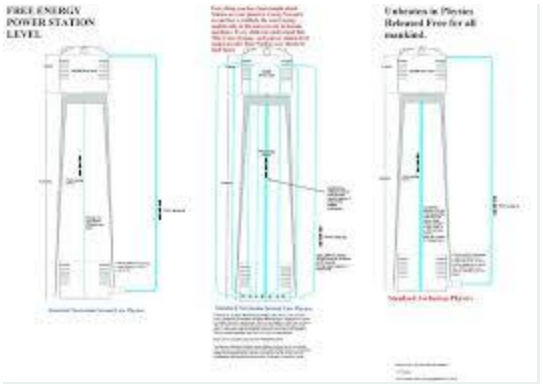

Thank You!

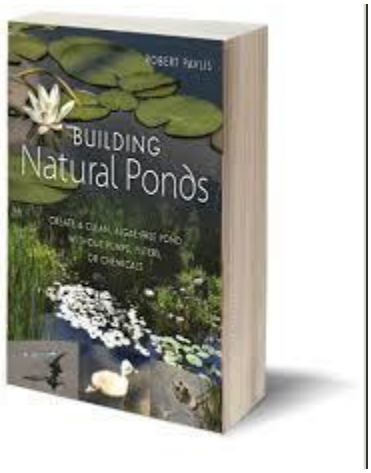

The Gap Between US Total Energy Production and Demand Will Double in the Next 20 Years.
Demand
Production
2020
2015
2010
2005
1998
0
40
80
120
160
Quadrillion Btu
(DOE National Energy Information Center)

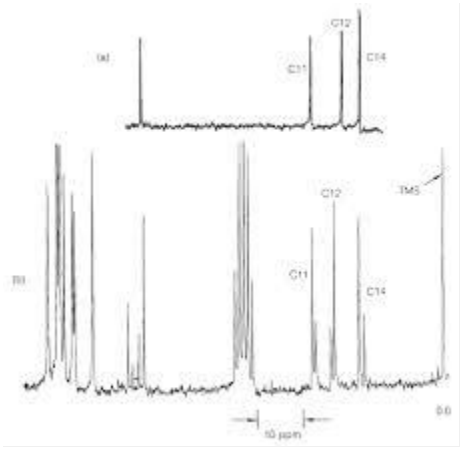

120 KV
VERY LONG SUSPENSIONS
44 LBS
GLASS ROD
44 LBS
DIRECTION OF MOVEMENT OF ENTIRE SYSTEM TOWARD POSITIVE
EXCITER CIRCUIT
MID-POINT GROUNDED
FIG 1
A SIMPLE TYPE OF GRAVITATOR IS SHOWN IN THE ABOVE ILLUSTRATION.

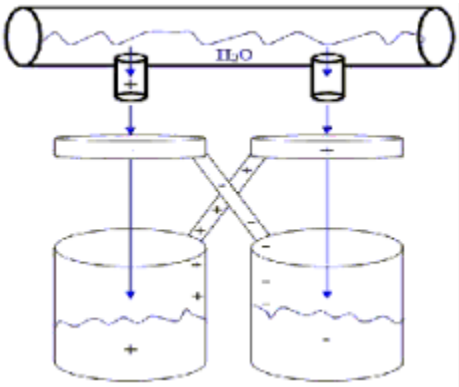

Chemical Shift
Again, consider Maxwell's theorem that an electric current in a loop generates a magnetic field. Effectively, the electron distribution in the chemical will cause distinct local magnetic fields that will either add to or subtract from B_o
HO-CH2-CH3
$B_{eff} = B_o(1 - \sigma)$
OH
CH2
CH3
TMS
de-shielding
high shielding
Shielding – local field opposes B_o
Aromaticity, electronegativity and similar factors will contribute to chemical shift differences



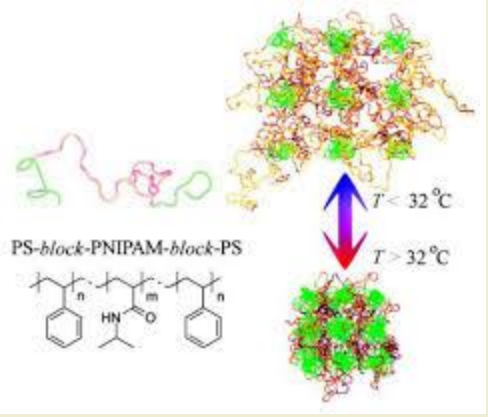










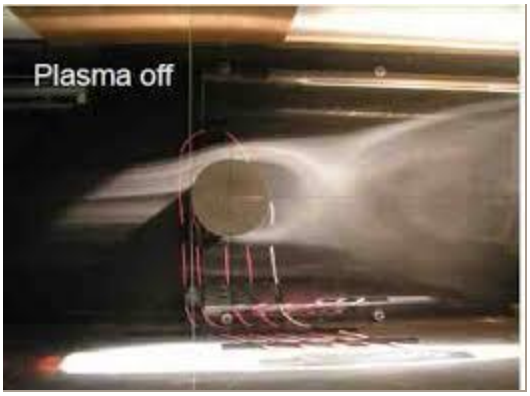


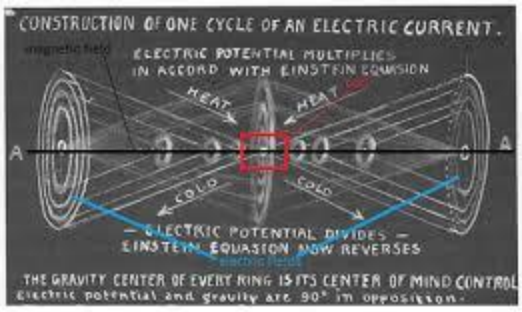
12. It feels like you're getting yelled at

When someone other than a friend refers to you by your last name, you can't help but feel as if there is some sort of negative connotation attached to it.

18. You become offended when people who aren't your friends call you by your last name

Bitch! You don't know me!









Substituted Alkenes

X	δ CH_2X	δ RCH_2X	δ R_2CHX	σ^*
—H	0.23	0.9	1.25	0.00
—R	0.9	1.25	1.5	0.47
—F	4.26	4.4	–	–
—Cl	3.05	3.4	4.0	2.53
—Br	2.68	3.33	4.1	2.33
—I	2.16	3.2	4.2	1.82
—OH	3.47	3.6	3.6	2.56
—OR	3.3	3.4	–	2.36
—OAr	3.7	3.9	–	3.23
—O—C(=O)—R	3.6	4.1	5.0	3.13
—O—C(=O)—Ar	3.8	4.2	5.1	–
—SH	2.44	2.7	–	–
—SR	2.1	2.5	–	1.64
—NR_2	2.2	2.6	2.9	1.57
—NHC(=O)R	2.8	–	3.2	–
—NO_2	4.26	4.4	4.7	–
—CHO	2.20	2.3	2.4	1.70
—C(=O)—R	2.1	2.4	2.5	1.70
—C(=O)—Ar	2.6	3.0	3.4	1.70
—C(=O)—OH	2.07	2.3	2.6	1.55







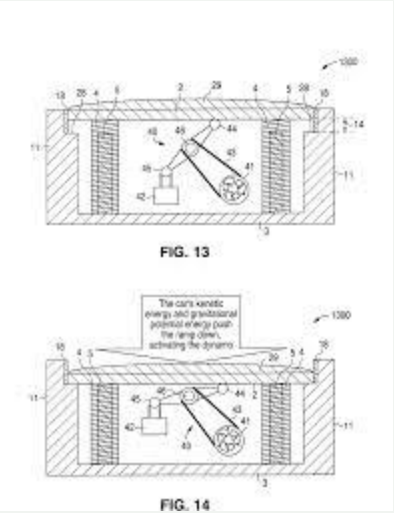
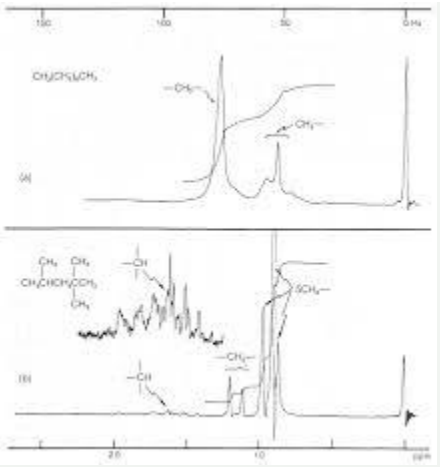


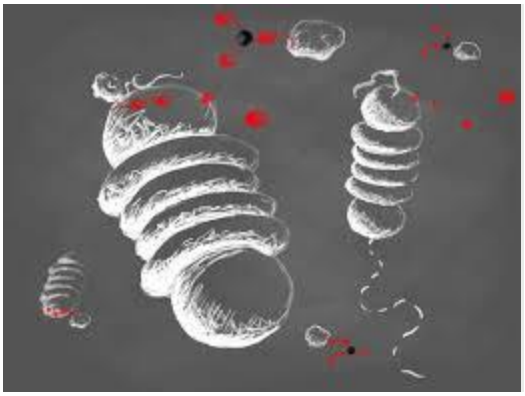
FIG. 13

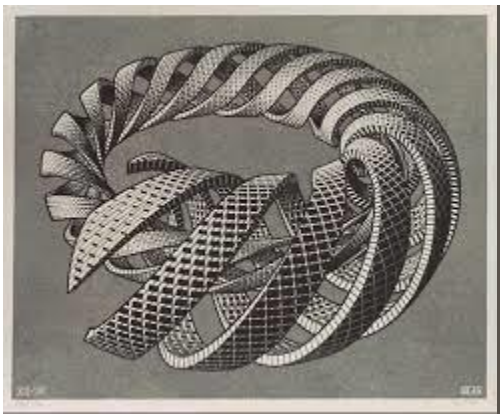
FIG. 14

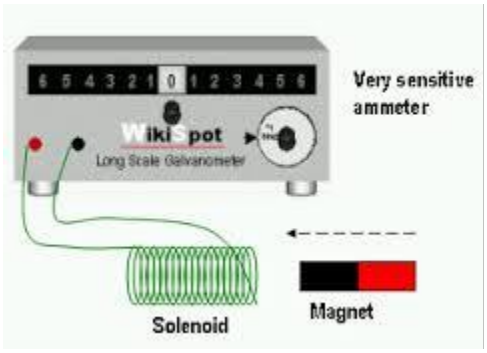



comforters
radiological
physical
ultrasound
patient
management
selection
medical
service
evidence
patients
related
including
activities
research
risk
physics
imaging
public
biomedical
quality
protection
dose
persons
volunteers
new
protocols
subjected
current
magnetic
exposures
e.g
fields
based
sufficient
use
clinical
devices


undergraduate
information
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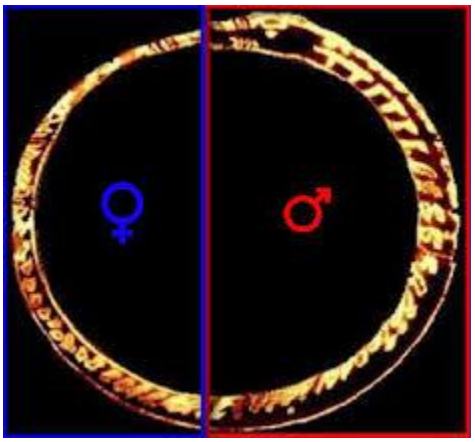



6 5 4 3 2 1 0 1 2 3 4 5 6
Very sensitive ammeter
Wikispot
Long Scale Galvanometer
Solenoid
Magnet

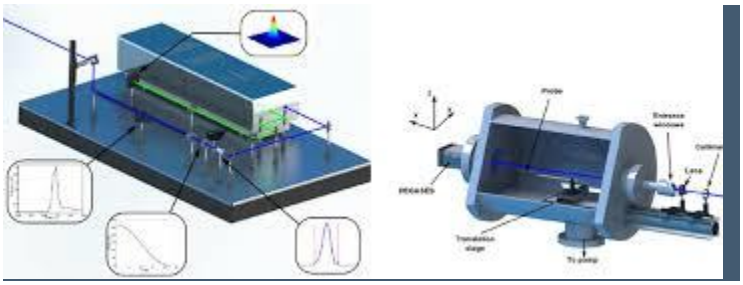


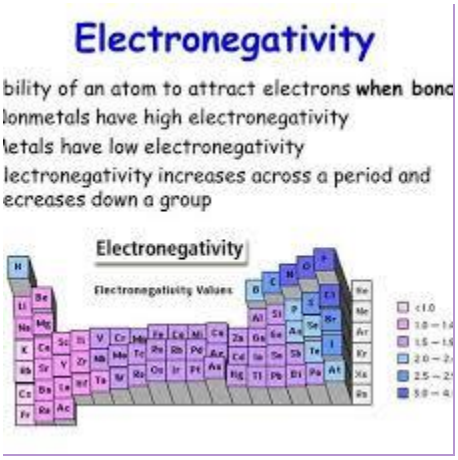


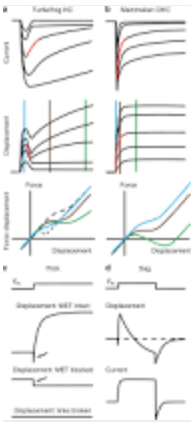


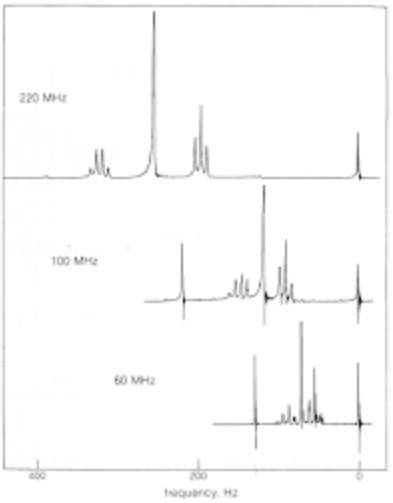



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Electronegativity
bility of an atom to attract electrons when bonc
lonmetals have high electronegativity
letals have low electronegativity
lectronegativity increases across a period and
ecreases down a group
Electronegativity
Electronegativity Values



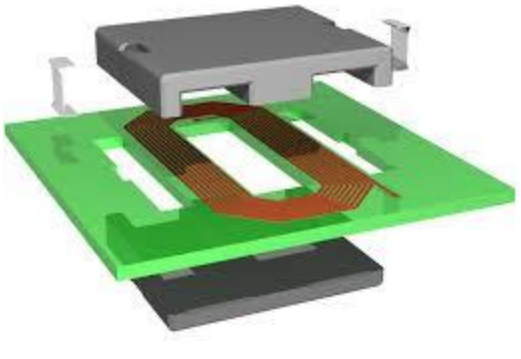


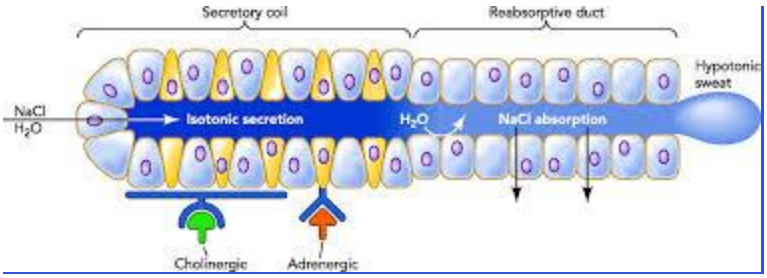
Amino Acids

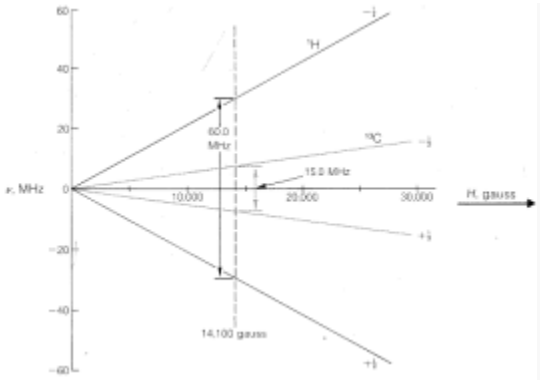
- **20 of the amino acids present in proteins are essential for health.**
- **Humans can synthesize 12 of the 20 common amino acids.**

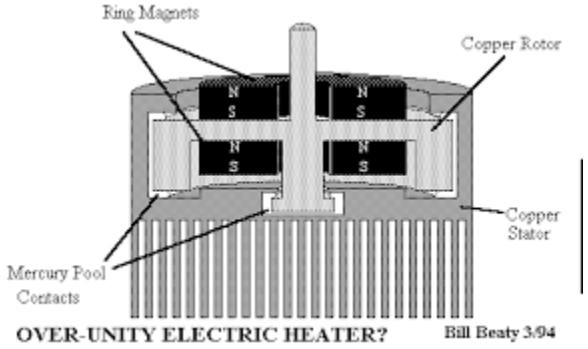
Standard 4: Objective 1

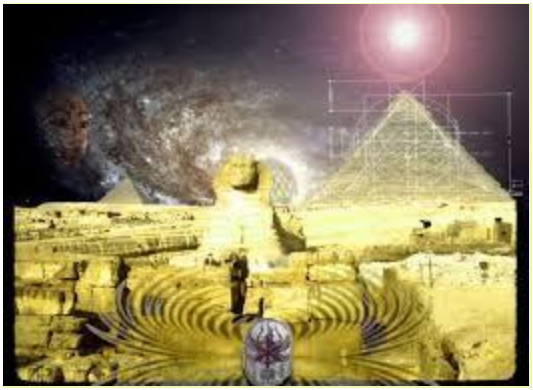
- 1) Molecular weight: the mass of one mole of a substance
 Formula weight: the sum of the atomic weights of everything that is in that particular formula (such as $C_6H_{12}O_6$ being the total weight of all the carbon, hydrogen, and oxygen atoms).
- 2)Ionic bonds form when two atoms have a large difference in electronegativity (ex. Salt)
 Covalent bonds form when two atoms have a very small difference in electronegativity (complete sharing of electrons)
 Hydrogen bonds is when hydrogen bonds with either fluorine, oxygen, or nitrogen (H_20)

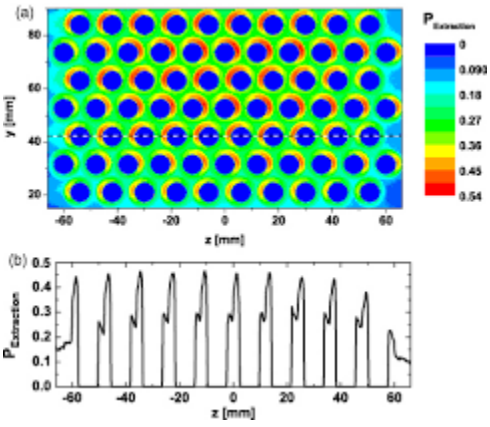


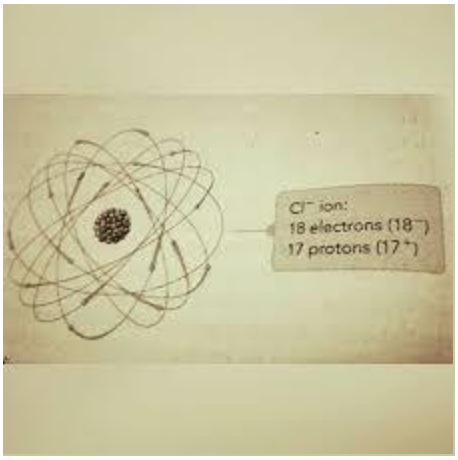










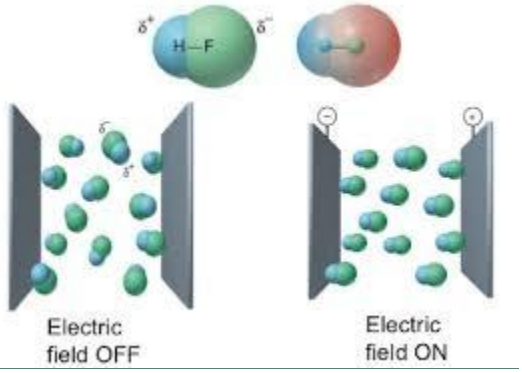


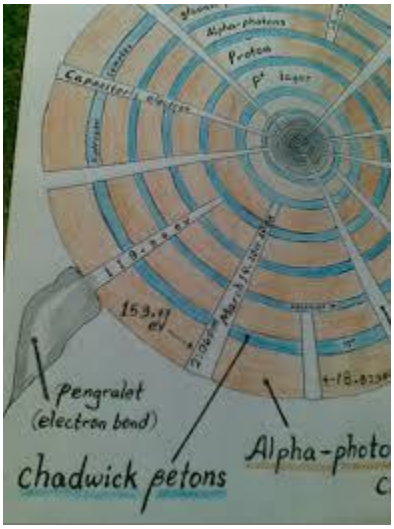
Levels of Protein Structure

- **primary** – sequence of amino acids
 - Ex. Order of letters in word
 - precision is required
 - one substitution → sickle cell disease
- **secondary** – polypeptide chain repeatedly folds or coils in patterns that contribute to the protein's overall conformation
 - results from hydrogen bonds
 - O and N of backbone are electronegative
 - alpha helix
 - Delicate coil held by Hbonds
 - beta pleated sheet
 - 2 or more regions lie parallel to each other

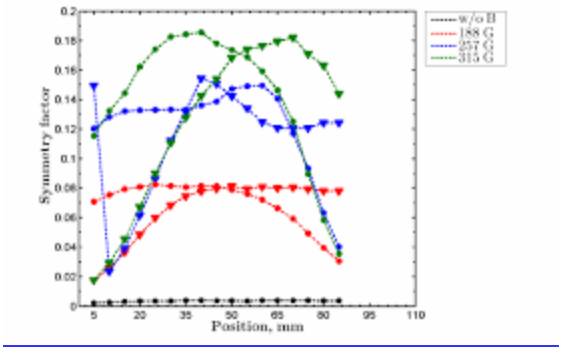
MyShared





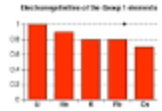




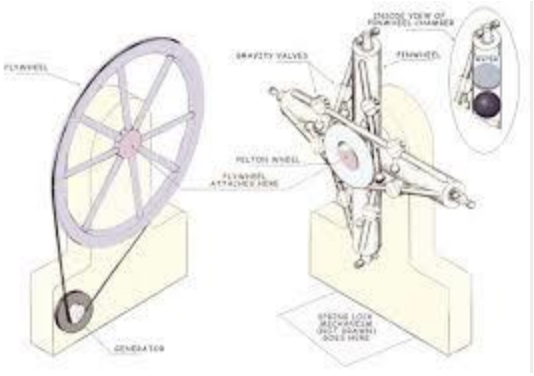


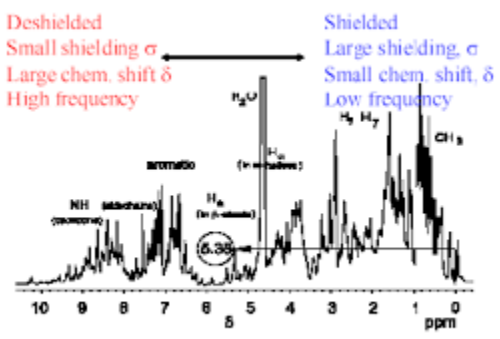


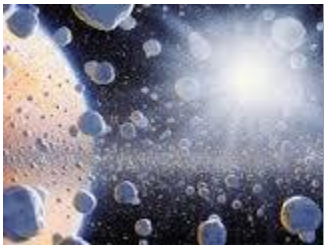
Trends in Electronegativity

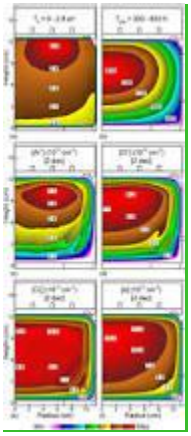


- Electronegativity is a measure of the tendency of an atom to attract a bonding pair of electrons.
- Most electronegative element in the periodic table is Fluroine









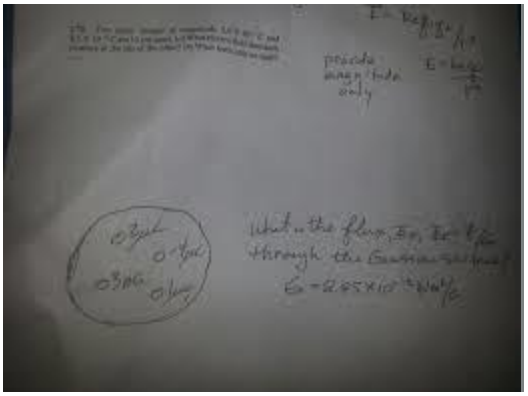






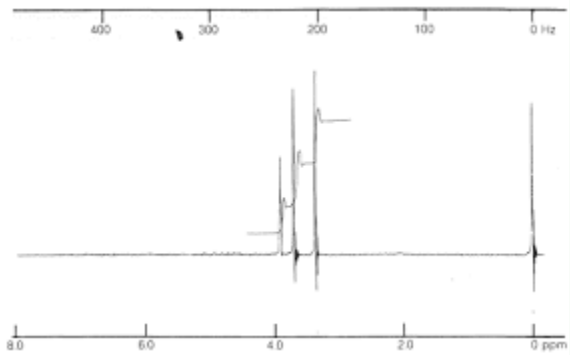
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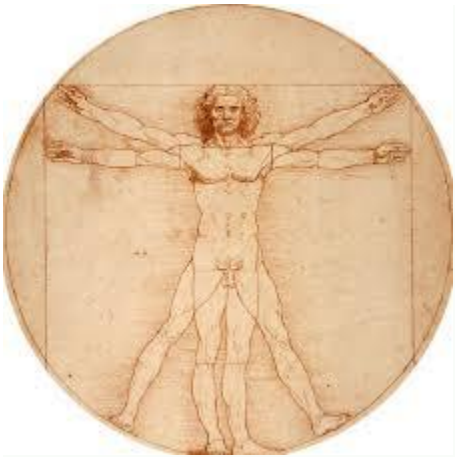


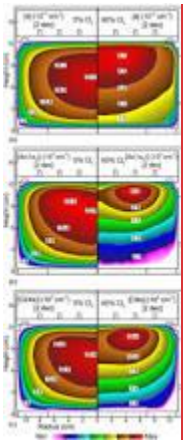
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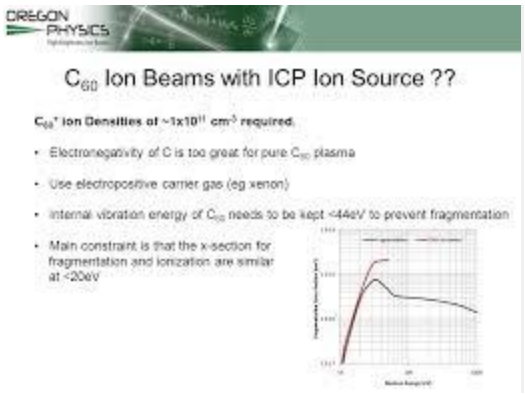


A table of typical chemical shifts in C-13 NMR spectra

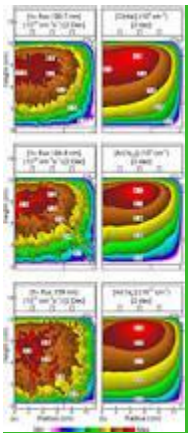
carbon environment	chemical shift (ppm)
C=O (in ketones)	205 - 220
C=O (in aldehydes)	190 - 200
C=O (in acids and esters)	170 - 185
C in aromatic rings	125 - 150
C=C (in alkenes)	115 - 140
RCH_2OH	50 - 65
RCH_2Cl	40 - 45
RCH_2NH_2	37 - 45
R_2CH	25 - 35
CH_3CO-	20 - 30
R_2CH_2	16 - 25
RCH_3	10 - 15



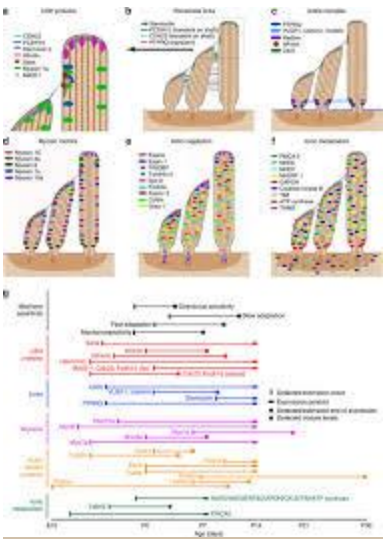


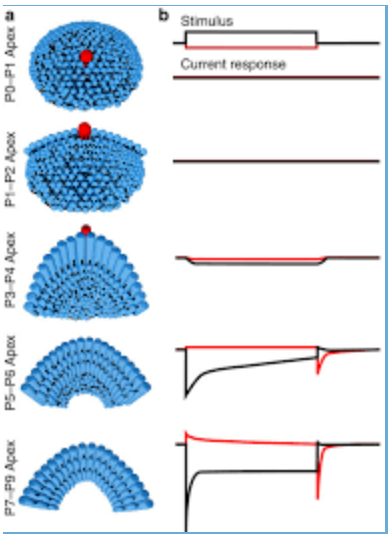


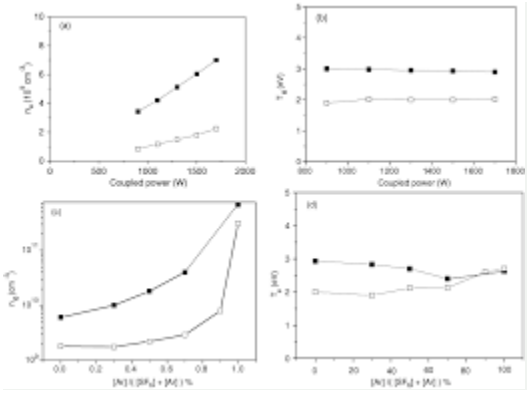


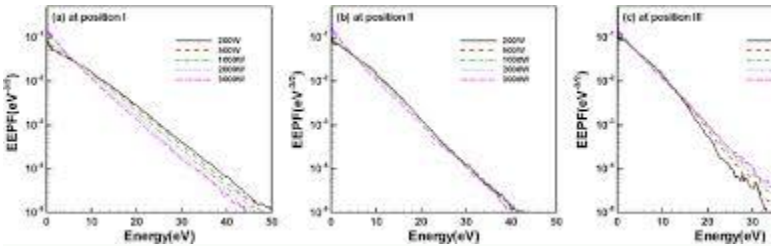


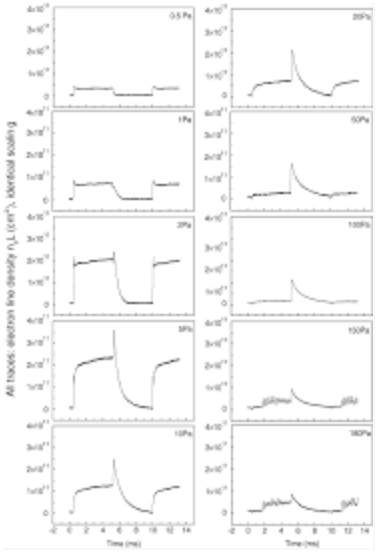





a
b
Stimulus
Current response
P0–P1 Apex
P1–P2 Apex
P3–P4 Apex
P5–P6 Apex
P7–P9 Apex

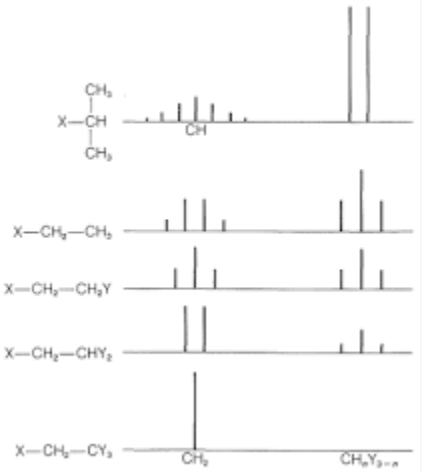

(a)
Coupled power (W)
(b)
Coupled power (W)
(c)
(d)


(a) at position I
(b) at position II
(c) at position III
EEPF(eV^-3/2)
Energy(eV)


0.5 Pa
1Pa
2Pa
5Pa
10Pa
20Pa
50Pa
100Pa
150Pa
180Pa





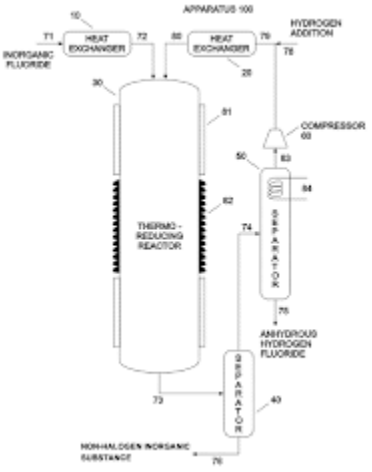


Marginal revenue

- Marginal revenue
 - How much additional is received by selling one more unit of the good?
 - We must first calculate TR
 - Notice that for Q > 1, MR < P

P	Q	TR	MR
4	0	0	
			3
3	1	3	
			1
2	2	4	
			-1
1	3	3	
			-3
0	4	0	

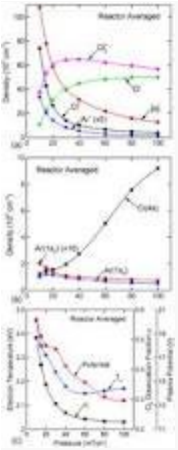


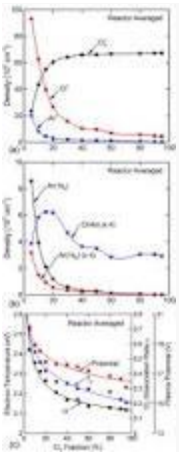


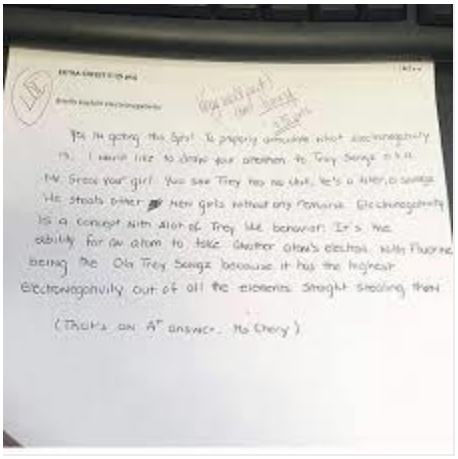
History: 1950's

- In 1958, engineer Earl Bakken of Minneapolis, Minnesota, produced the first wearable external pacemaker for a patient of Dr. C. Walton Lillehei. This transistorised pacemaker, housed in a small plastic box, had controls to permit adjustment of pacing heart rate and output voltage and was connected to electrode leads which passed through the skin of the patient to terminate in electrodes attached to the surface of the myocardium of the heart.







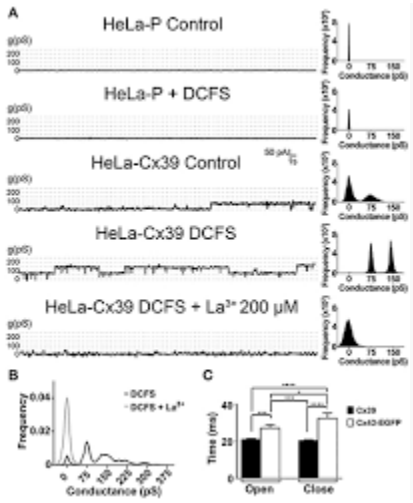


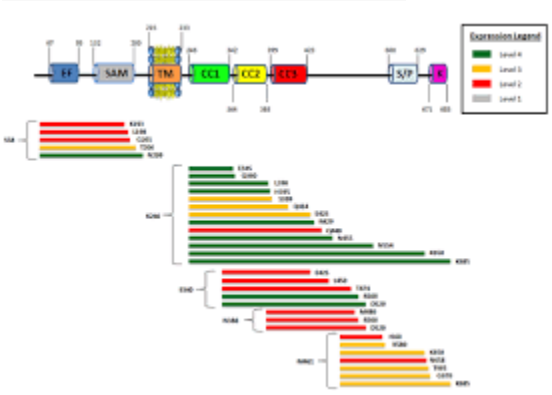
ОПЫТЪ СИСТЕМЫ ЭЛЕМЕНТОВЪ.

ОСНОВАННОЙ НА ВѢСѢ АТОМНОМЪ ВѢСѢ И ХИМИЧЕСКОМЪ СВОЙСТВѢ.

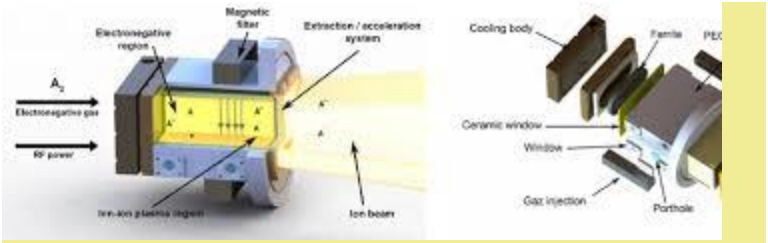
		Ti = 50	Zr = 90	? = 180.	
		V = 51	Nb = 94	Ta = 182.	
		Cr = 52	Mo = 96	W = 186.	
		Mn = 55	Rh = 104,4	Pt = 197,4.	
		Fe = 56	Ru = 104,4	Ir = 198.	
		Ni = Co = 59	Pl = 106,6	O = 199.	
H = 1		Cu = 63,4	Ag = 108	Hg = 200.	
	Be = 9,4	Mg = 24	Zn = 65,2	Cd = 112	
	B = 11	Al = 27,4	? = 68	Ur = 116	Au = 197?
	C = 12	Si = 28	? = 70	Sn = 118	
	N = 14	P = 31	As = 75	Sb = 122	Bi = 210?
	O = 16	S = 32	Se = 79,4	Te = 128?	
	F = 19	Cl = 35,5	Br = 80	I = 127	
Li = 7	Na = 23	K = 39	Rb = 85,4	Cs = 133	Tl = 204.
		Ca = 40	Sr = 87,6	Ba = 137	Pb = 207.
		? = 45	Ce = 92		
		?Er = 56	La = 94		
		?Yt = 60	Di = 95		
		?In = 75,6	Th = 118?		

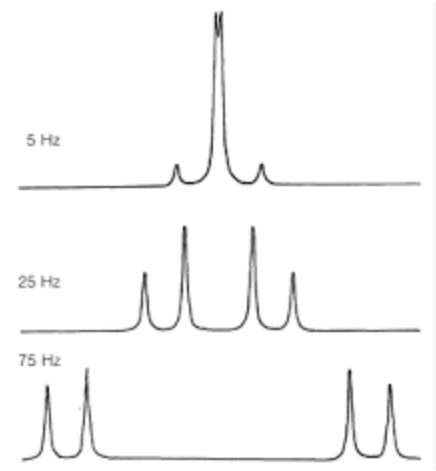
Д. Менделѣевъ



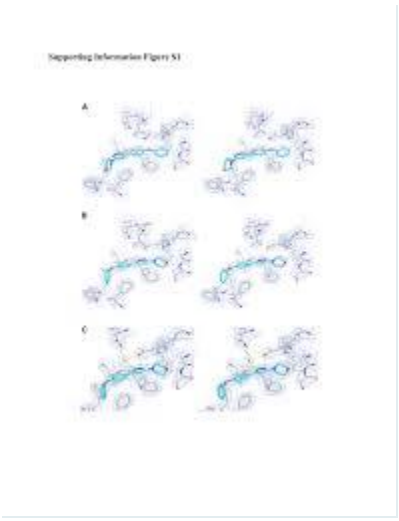


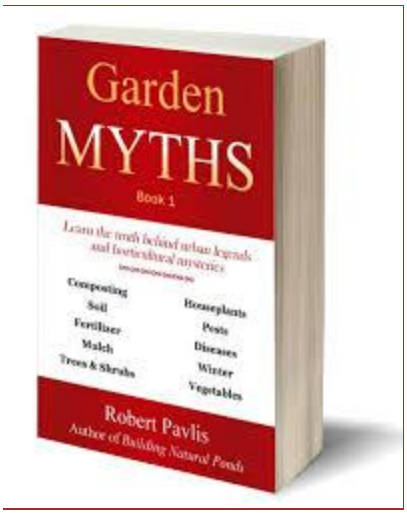


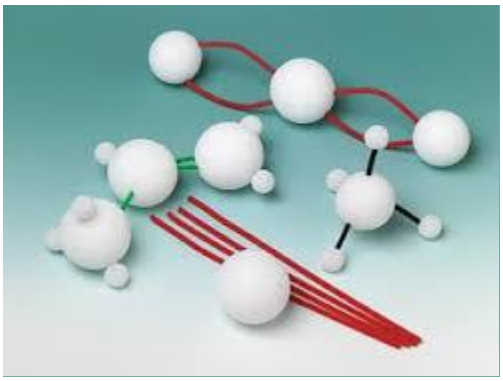


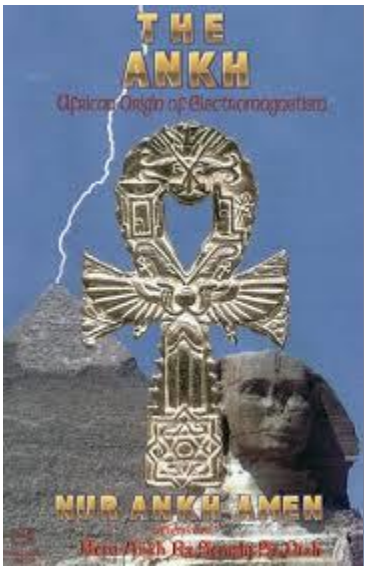


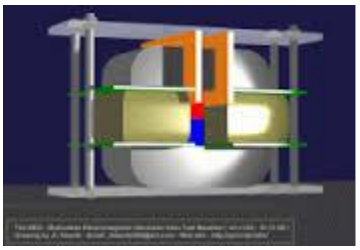


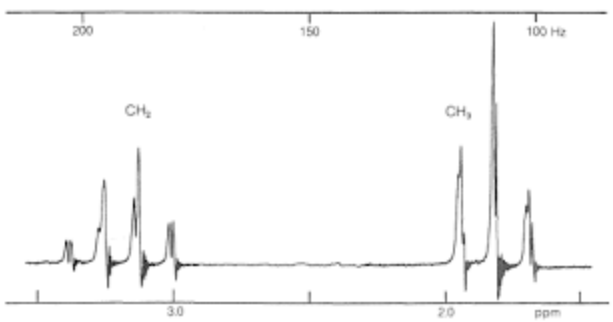














Supplementary Information

Figure S1. Concordance analysis of SIFT, PolyPhen 2.0 and I Mutant 3.0. By combining prediction of all three tools 100 SNPs were predicted to be significant.

Figure S2. Graphical representation of lens docking results of Trim-Telebinein complex using Haddock. Colour scheme Trim (Red) and Telebinein (Blue).

Figure S3. Comparative potential energy graph of 50ns simulation of native and mutant complexes (Run 1). Colour scheme WT (Red) and mutant V140G (Blue)

Figure S4. Block based RMSDs of 2 NT runs. Color Scheme Run 1 (Green) and Run 2 (Maroon)

Figure S5. Comparative backbone RMSD graph of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V140G (Blue)

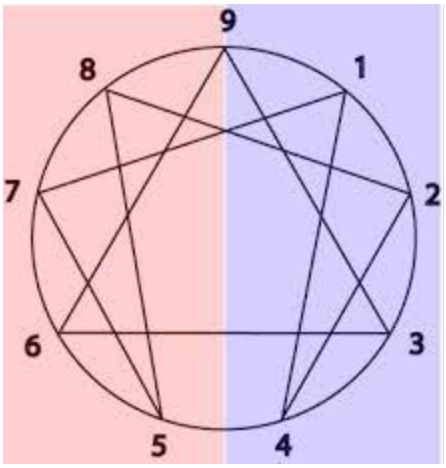
Figure S6. Comparative c-alpha RMSF graph of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V140G (Blue)

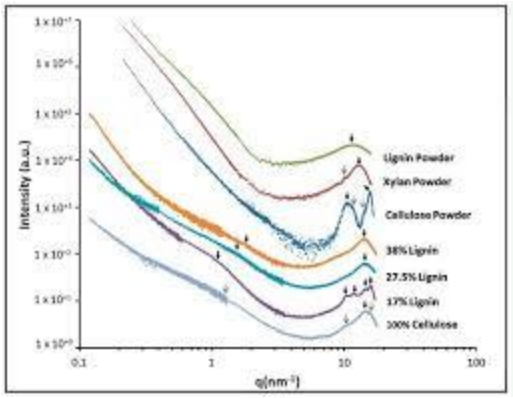
Figure S7. Comparative intermolecular hydrogen bonds of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V140G (Blue)

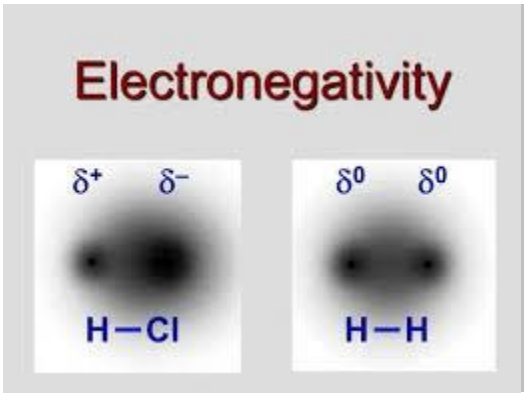
Figure S8. Solvent accessible graph of 50ns simulation of native and mutant complexes (Run 1). Colour scheme WT (Red) and mutant V140M (Blue)

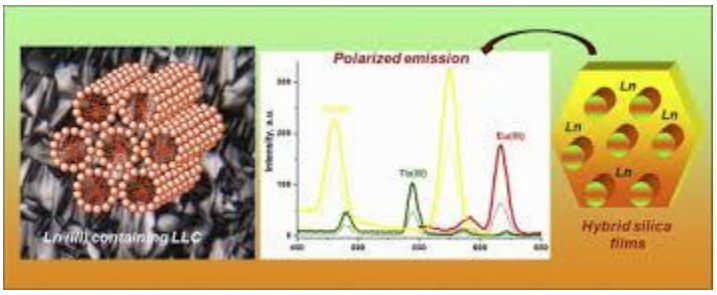
Table S1. Characterization of potential pathogenic sequence mSNP/strian in gene encoding human ITSN.

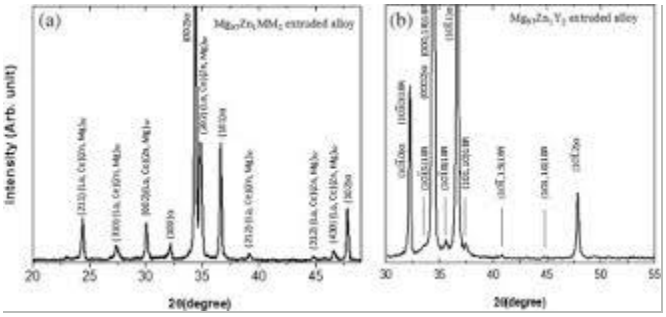
Table S2. Interacting residues of Trim-telebinein complex obtained from PIC server.

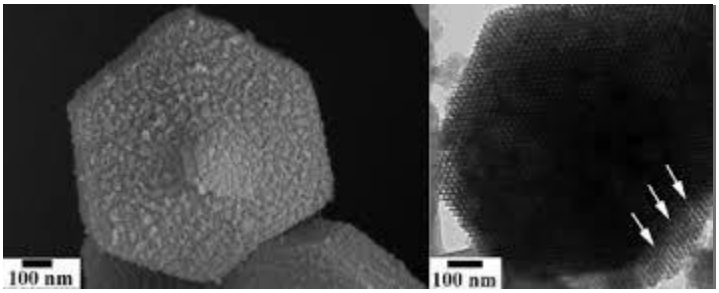

9
8
1
7
2
6
3
5
4


Intensity (a.u.)
Lignin Powder
Xylan Powder
Cellulose Powder
38% Lignin
27.5% Lignin
17% Lignin
100% Cellulose
q(nm⁻¹)

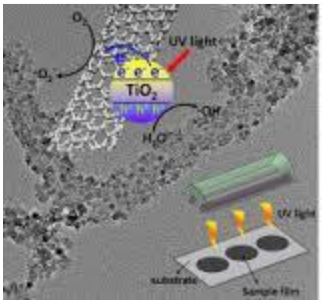

Electronegativity
δ+ δ−
H—Cl
δ0 δ0
H—H

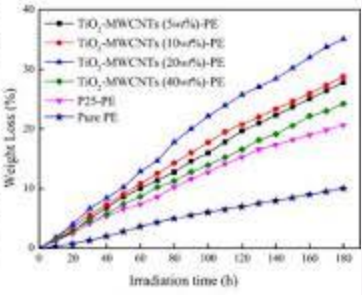

Polarized emission
Ln
Ln
Ln
Ln
Hybrid silica films

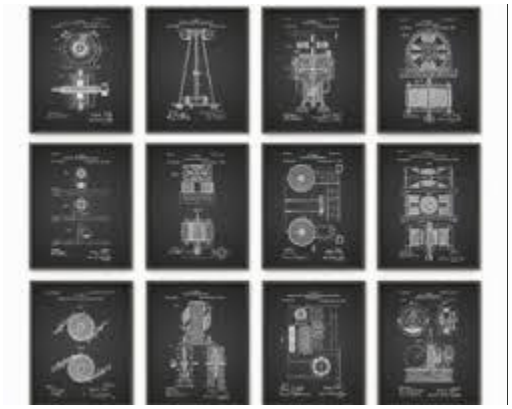

(a)
(b)
Intensity (A.rb. unit)
2θ(degree)
2θ(degree)


100 nm
100 nm




UV light
TiO2
UV light
substrate
Sample film


TiO2-MWCNTs (5wt%)-PE
TiO2-MWCNTs (10wt%)-PE
TiO2-MWCNTs (20wt%)-PE
TiO2-MWCNTs (40wt%)-PE
P25-PE
Pure PE
Weight Loss (%)
Irradiation time (h)





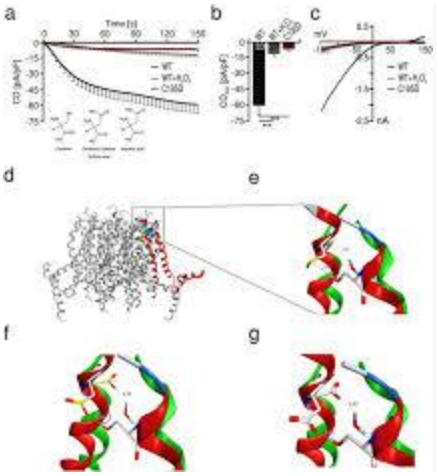
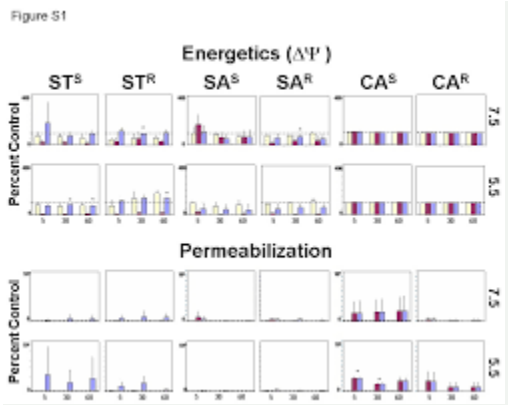


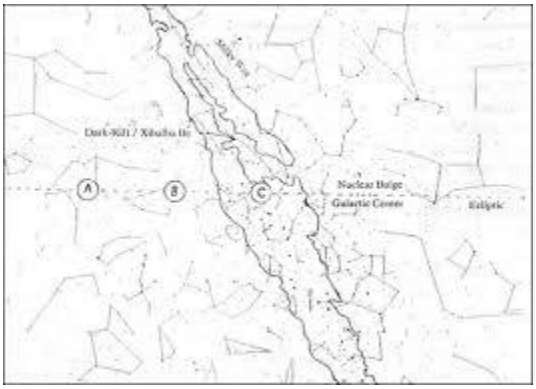
Figure S1



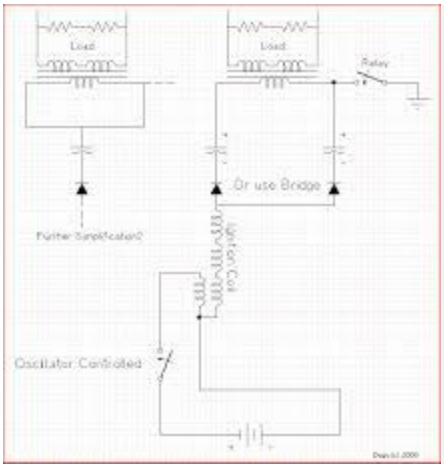




ALTERNATING MALEIC ANHYDRIDE COPOLYMERS



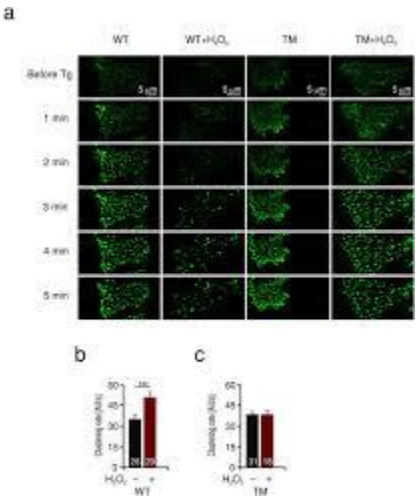




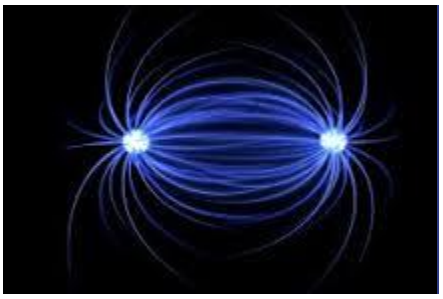








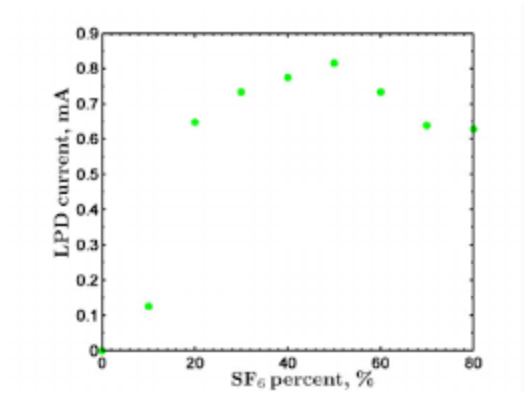


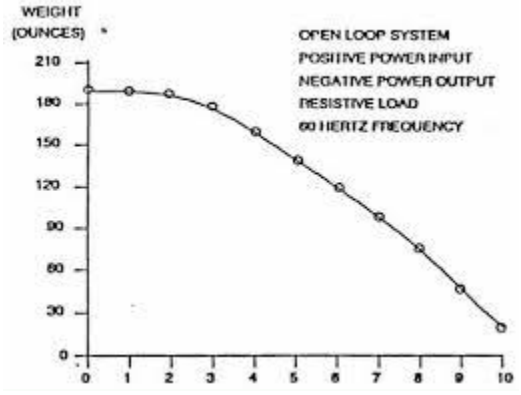


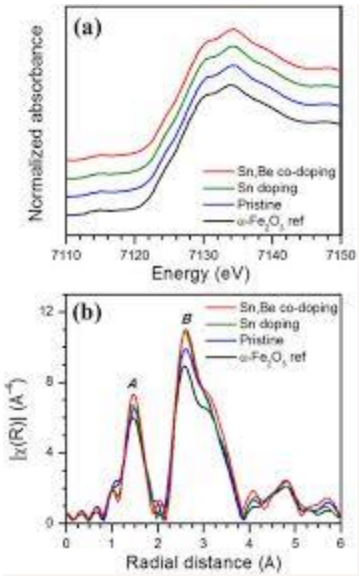
More Vocab

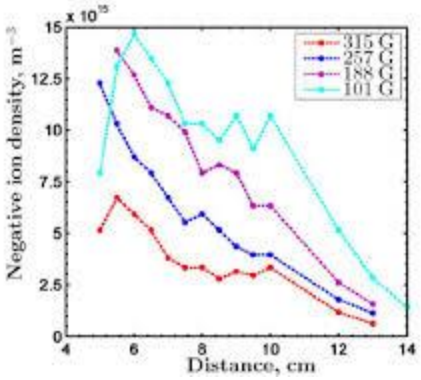
- **Electronegativity -** The attraction of an atom for the electrons of a covalent bond.
- **Reactant** - A starting material in a chemical reaction
- **Product -** An ending material in a chemical reaction

MyShared

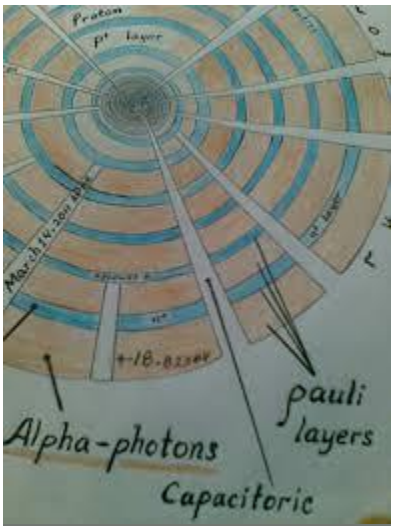


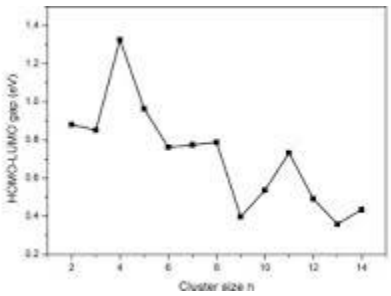


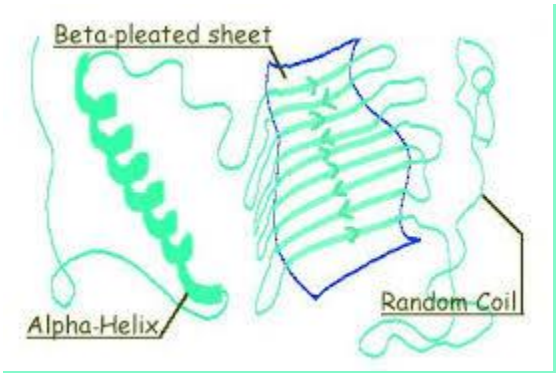














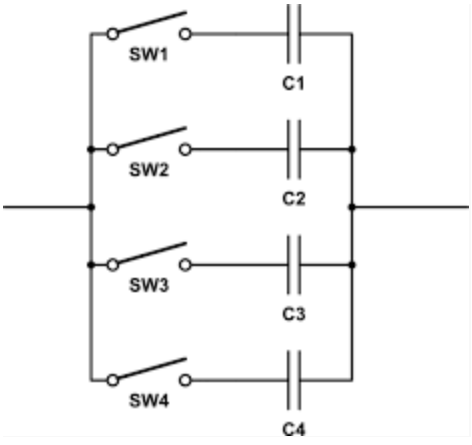
Metal-Halide Lamps

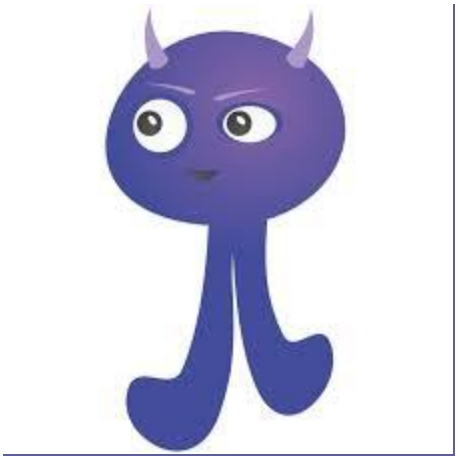
Abstract

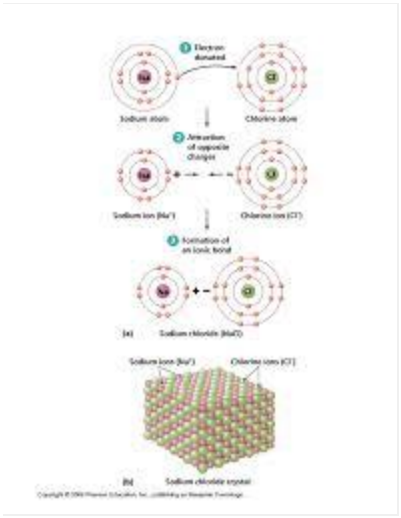
Introduction

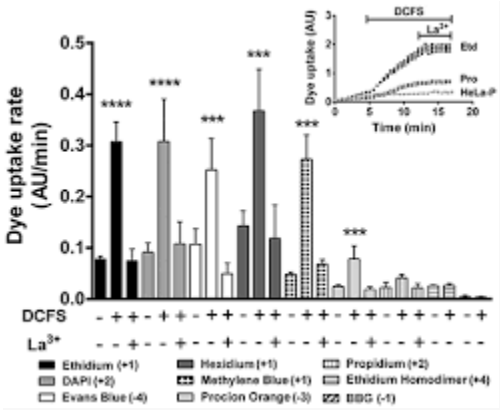
Historical Overview

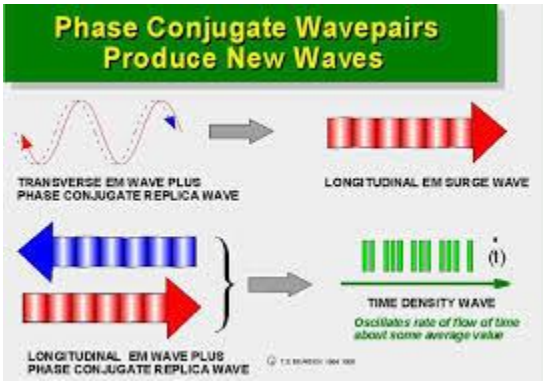
Basic Working Principle (Difference to Hg Lamps)

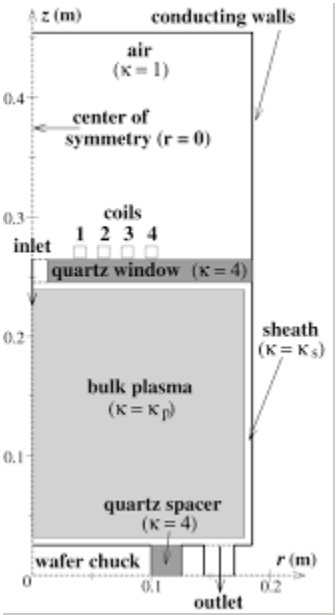






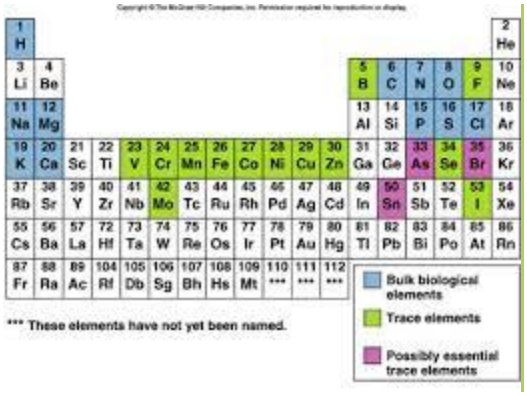

Dye uptake rate (AU/min)
DCFS
La3+
Ethidium (+1)
DAPI (+2)
Evans Blue (-4)
Hexidium (+1)
Methylene Blue (+1)
Procion Orange (-3)
Propidium (+2)
Ethidium Homodimer (+4)
BBG (-1)
Dye uptake (AU)
Time (min)
Etd
Pro
HeLa-P

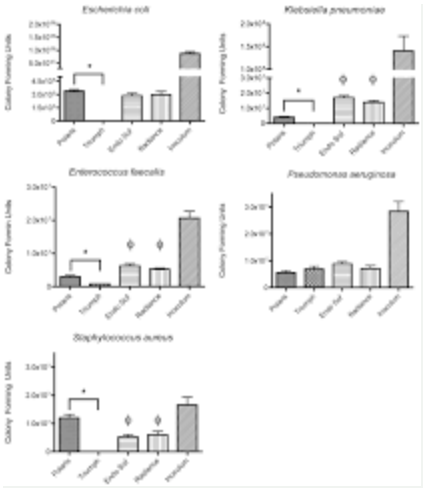

Phase Conjugate Wavepairs Produce New Waves
TRANSVERSE EM WAVE PLUS PHASE CONJUGATE REPLICA WAVE
LONGITUDINAL EM SURGE WAVE
TIME DENSITY WAVE
Oscillates rate of flow of time about some average value
LONGITUDINAL EM WAVE PLUS PHASE CONJUGATE REPLICA WAVE


z (m)
conducting walls
air
(κ = 1)
center of symmetry (r = 0)
coils
1 2 3 4
inlet
quartz window (κ = 4)
sheath
(κ = κs)
bulk plasma
(κ = κp)
quartz spacer
(κ = 4)
wafer chuck
r (m)
outlet

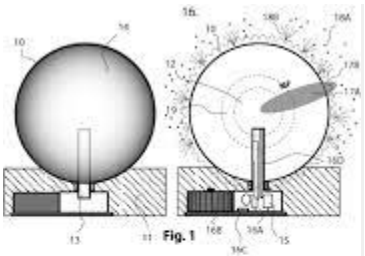


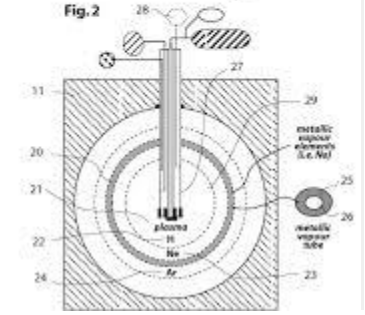

10uF450
wmec
10uF450
wmec


Bulk biological elements
Trace elements
Possibly essential trace elements
*** These elements have not yet been named.

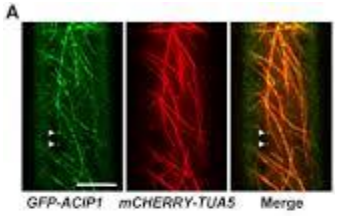

Escherichia coli
Klebsiella pneumoniae
Enterococcus faecalis
Pseudomonas aeruginosa
Staphylococcus aureus

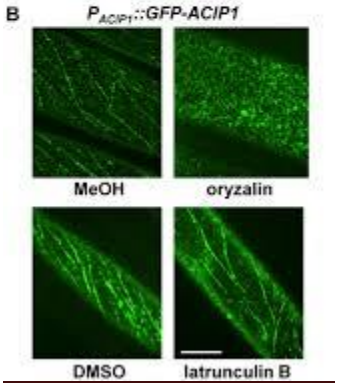


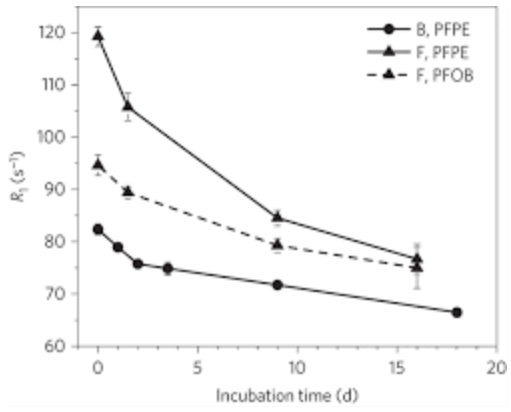

Fig. 1


Fig. 2
plasma
H
Ne
Ar

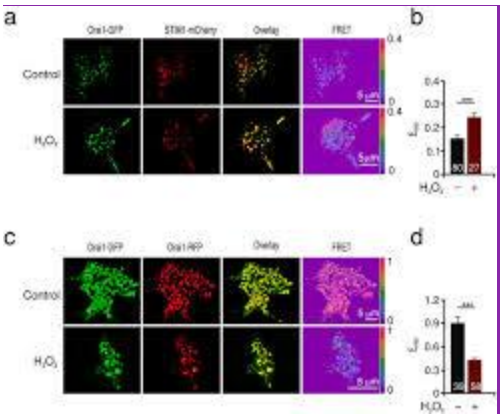



A
GFP-ACIP1
mCHERRY-TUA5
Merge

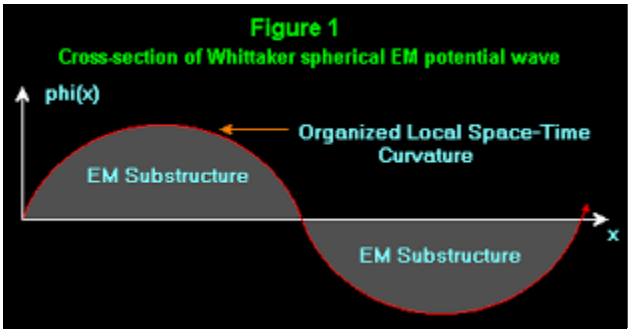

B
PACIP1::GFP-ACIP1
MeOH
oryzalin
DMSO
latrunculin B

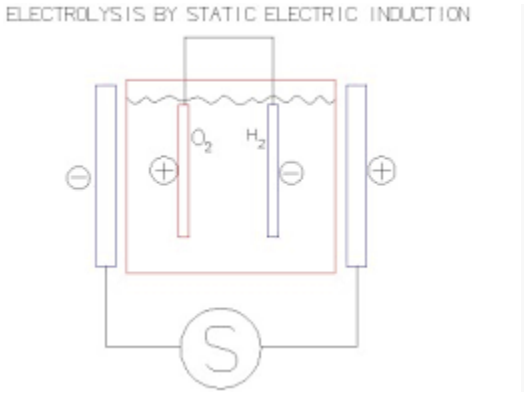

B, PFPE
F, PFPE
F, PFOB
R1 (s-1)
Incubation time (d)



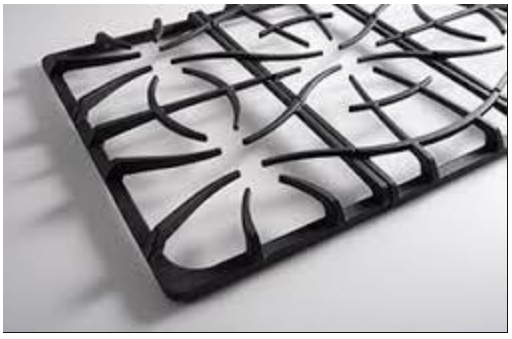

a
b
c
d
Control
H_2O_2



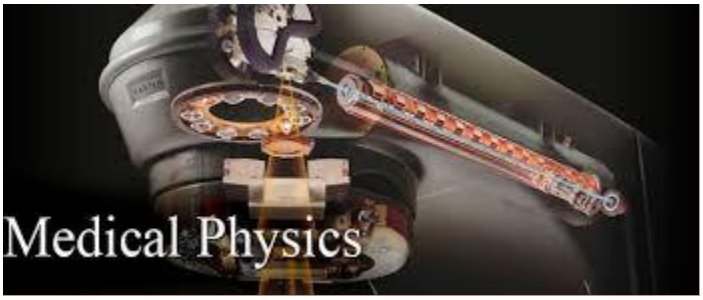

Figure 1
Cross-section of Whittaker spherical EM potential wave
phi(x)
Organized Local Space-Time Curvature
EM Substructure
EM Substructure
x

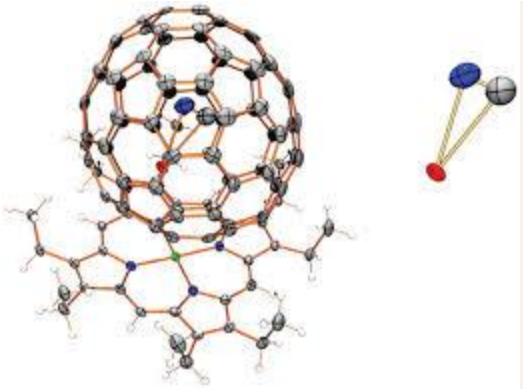

ELECTROLYSIS BY STATIC ELECTRIC INDUCTION
O_2
H_2
S

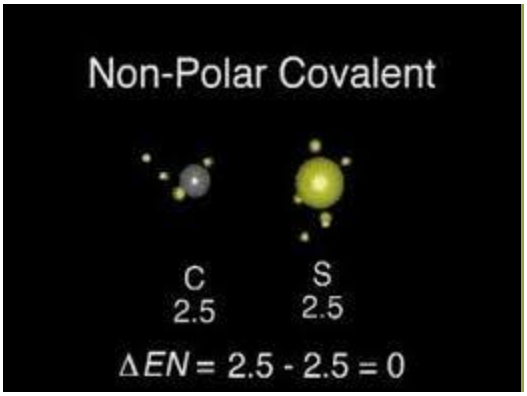

Periodic Table of the Elements




104

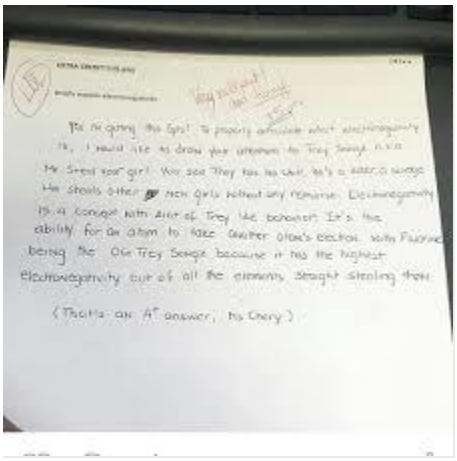

Medical Physics

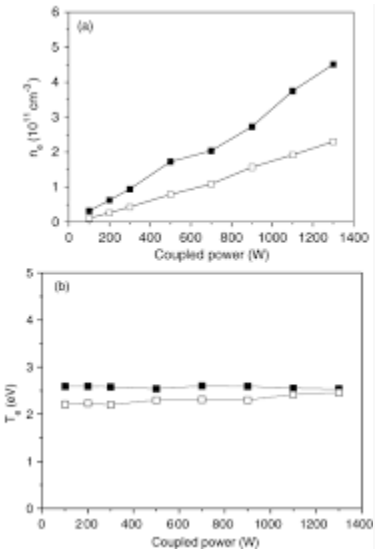



Non-Polar Covalent
C
2.5
S
2.5
ΔEN = 2.5 - 2.5 = 0

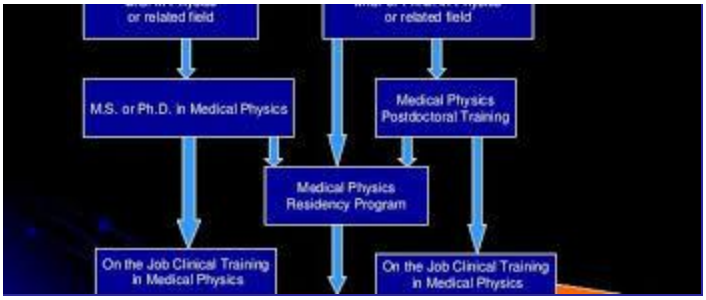


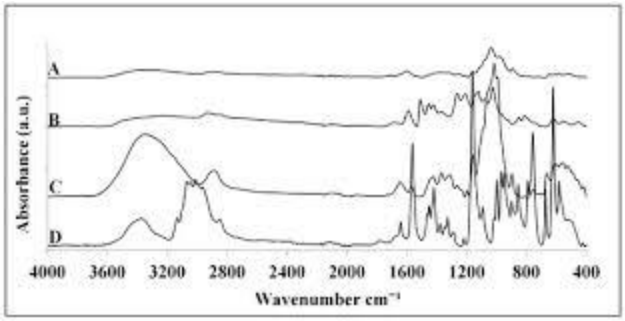

...and how it pulsated lights that present
all the colors of the rainbow.
1:25 / 4:53

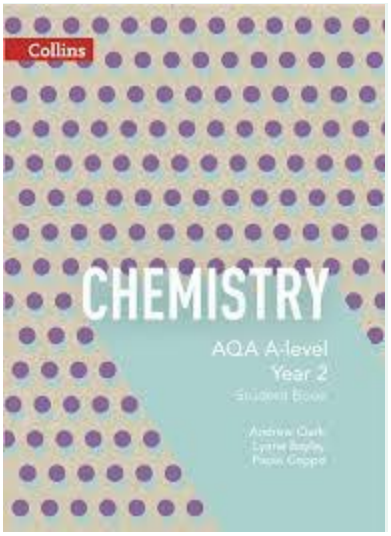


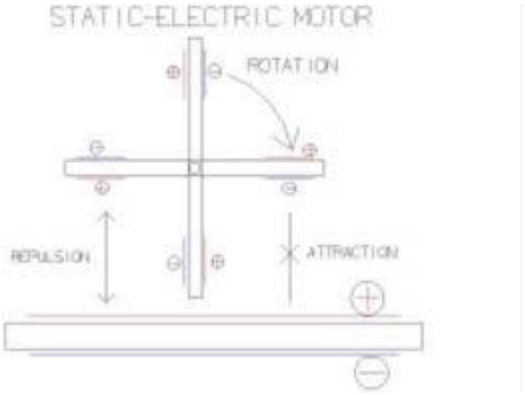

(a)
n_e (10^{11} cm^{-3})
Coupled power (W)
(b)
T_e (eV)
Coupled power (W)


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AERIALS ONLY (508)295-5551 (c) E


or related field
or related field
M.S. or Ph.D. in Medical Physics
Medical Physics Postdoctoral Training
Medical Physics Residency Program
On the Job Clinical Training in Medical Physics
On the Job Clinical Training in Medical Physics

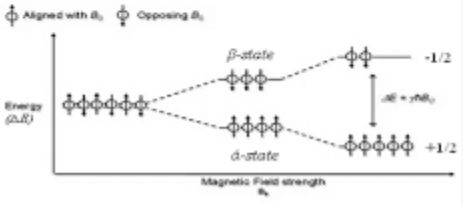

A
B
C
D
Absorbance (a.u.)
4000 3600 3200 2800 2400 2000 1600 1200 800 400
Wavenumber cm⁻¹


Collins
CHEMISTRY
AQA A-level
Year 2
Student Book


STATIC-ELECTRIC MOTOR
ROTATION
REPULSION
ATTRACTION



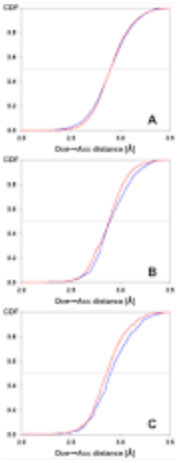

β state
Be
External magnetic field
ΔE (Difference in the energies) = hv
α state


Aligned with B_0
Opposing B_0
β-state
-1/2
$\Delta E = \gamma\hbar B_0$
Energy (ΔE)
α-state
+1/2
Magnetic Field strength
B_0







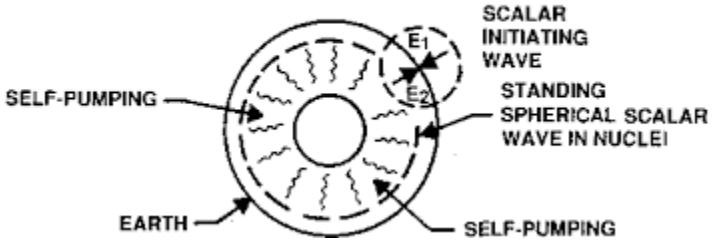


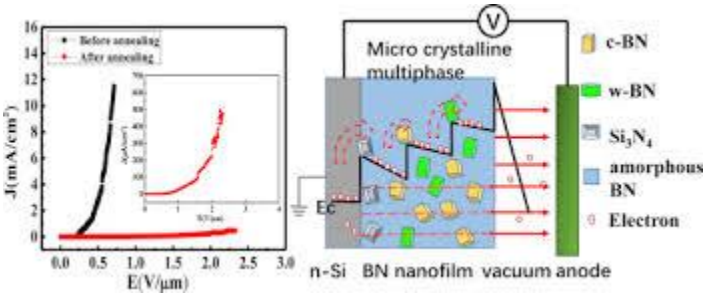


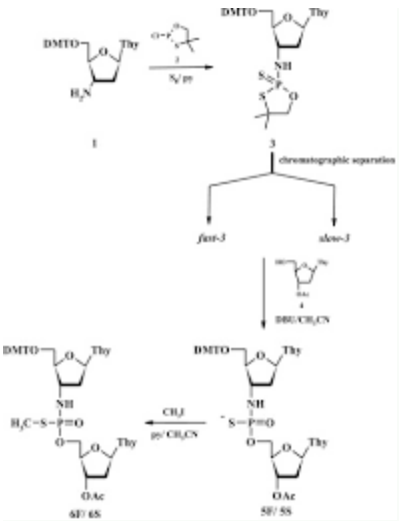


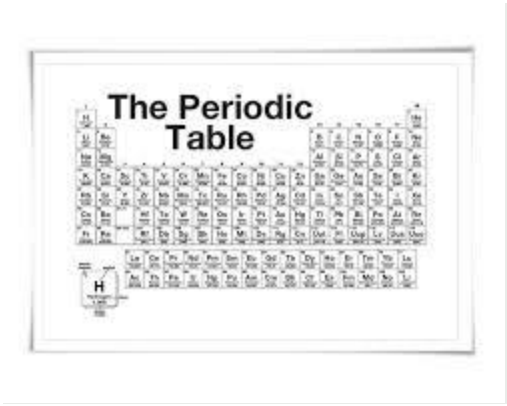


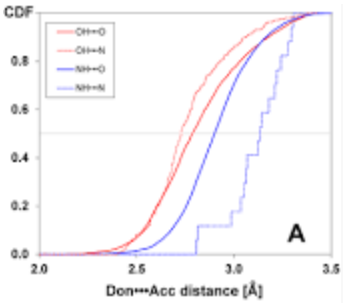
[NOTE: WHITTAKER STANDING SCALAR WAVES]

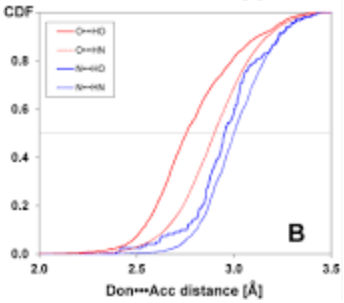


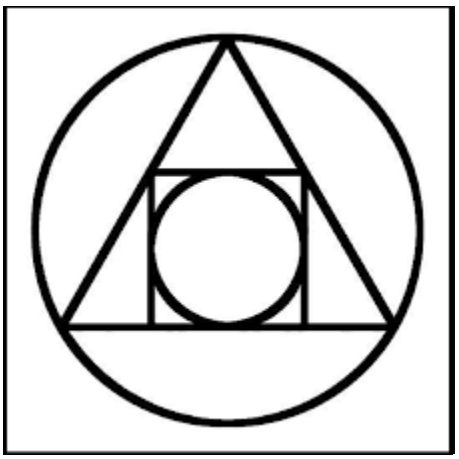




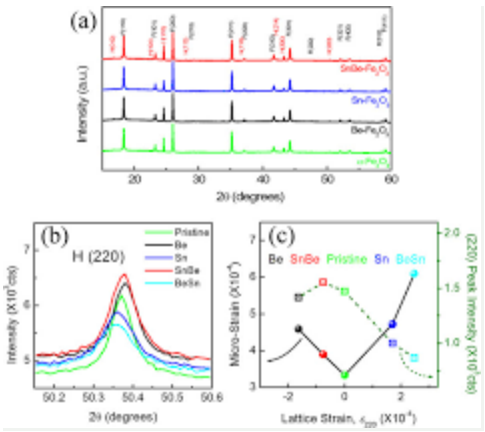


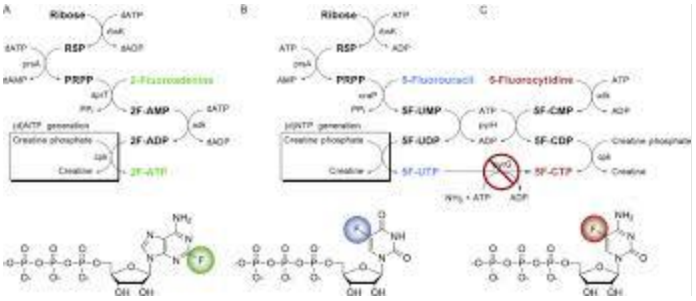

CDF
OH•••O
OH•••N
NH•••O
NH•••N
0.0
0.2
0.4
0.6
0.8
2.0
2.5
3.0
3.5
A
Don•••Acc distance [Å]


CDF
O•••H
O•••N
N•••H
N•••N
0.0
0.2
0.4
0.6
0.8
2.0
2.5
3.0
3.5
B
Don•••Acc distance [Å]

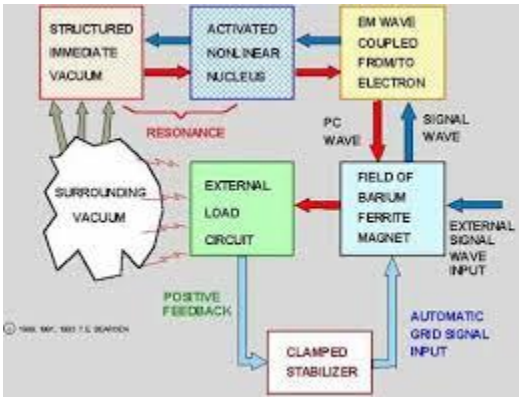


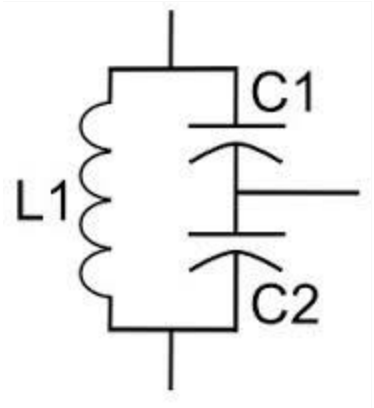


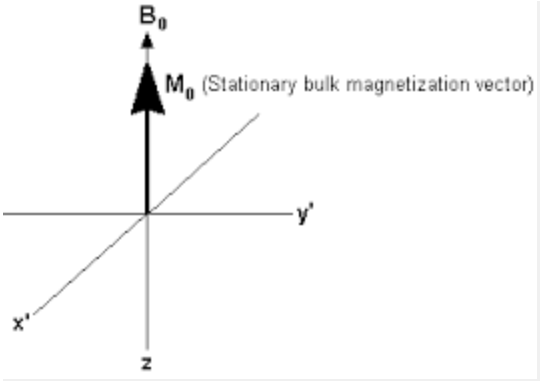

(a)
Intensity (a.u.)
2θ (degrees)
(b)
H (220)
Pristine
Be
Sn
SnBe
BeSn
Intensity (X10³ cts)
2θ (degrees)
(c)
Be SnBe Pristine Sn BeSn
Micro-Strain (X10⁻⁴)
(220) Peak Intensity (X10³ cts)
Lattice Strain, ε220 (X10⁻⁴)

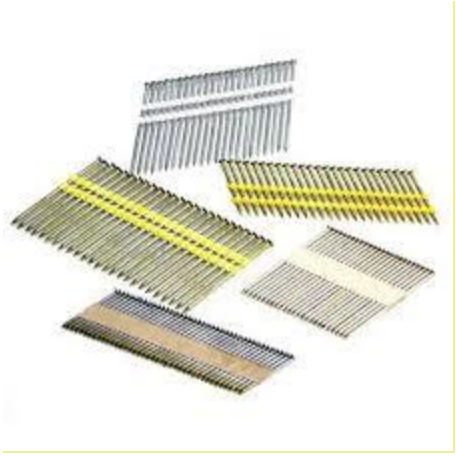

A
B
C
Ribose
RSP
PRPP
5-Fluorouracil
5-Fluorocytidine
SF-AMP
SF-ADP
SF-ATP
SF-UMP
SF-UDP
SF-UTP
SF-CMP
SF-CDP
SF-CTP
Creatine phosphate
Creatine

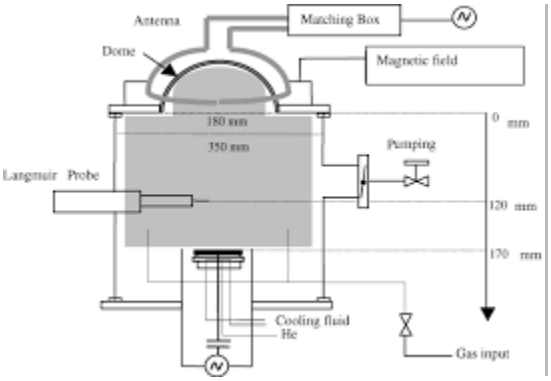



STRUCTURED
IMMEDIATE
VACUUM
ACTIVATED
NONLINEAR
NUCLEUS
EM WAVE
COUPLED
FROM/TO
ELECTRON
RESONANCE
PC
WAVE
SIGNAL
WAVE
SURROUNDING
VACUUM
EXTERNAL
LOAD
CIRCUIT
FIELD OF
BARIUM
FERRITE
MAGNET
EXTERNAL
SIGNAL
WAVE
INPUT
POSITIVE
FEEDBACK
AUTOMATIC
GRID SIGNAL
INPUT
CLAMPED
STABILIZER


C1
L1
C2

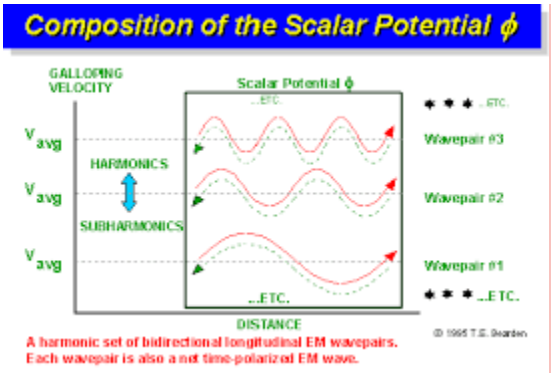


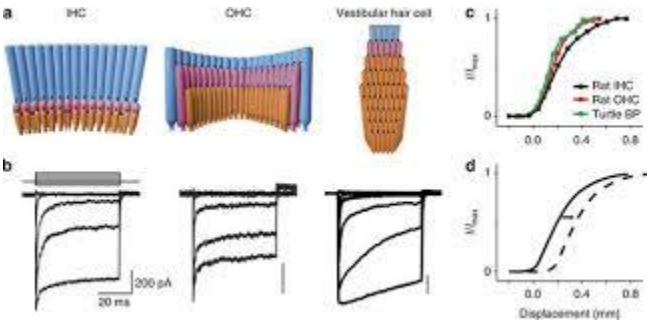


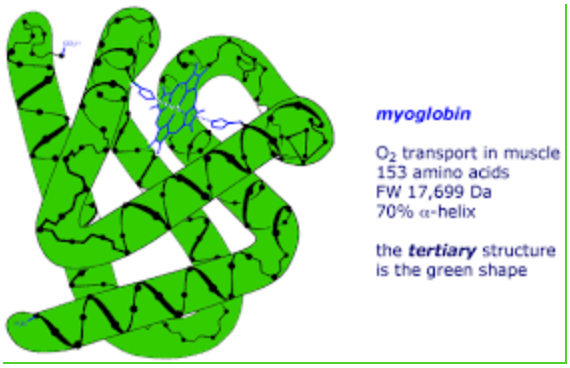




Composition of the Scalar Potential ϕ







myoglobin

O_2 transport in muscle
153 amino acids
FW 17,699 Da
70% α-helix

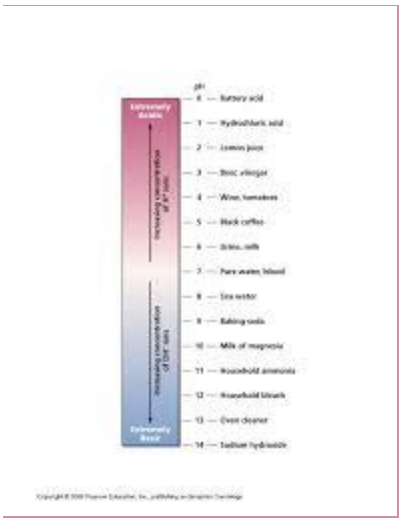
the ***tertiary*** structure is the green shape

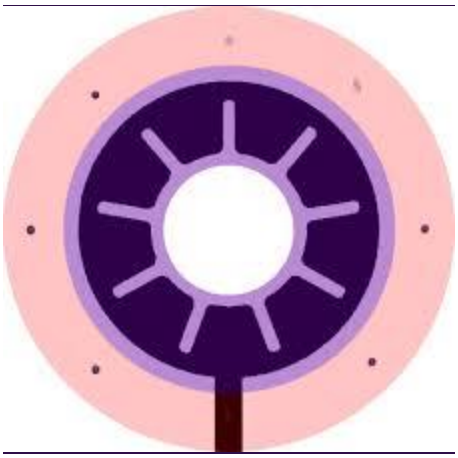
IKEA Thermos Boiler Application

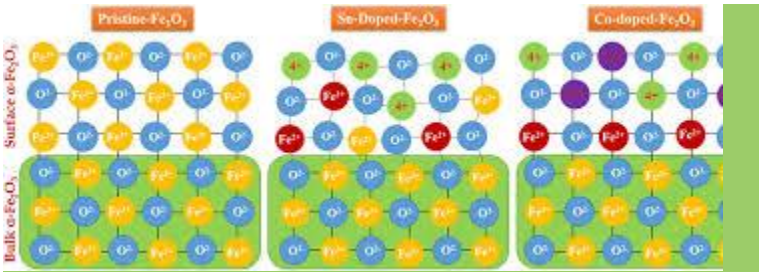












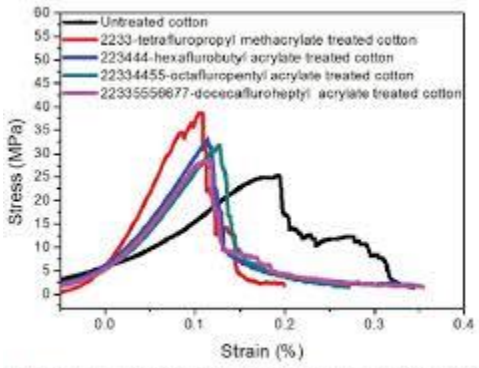
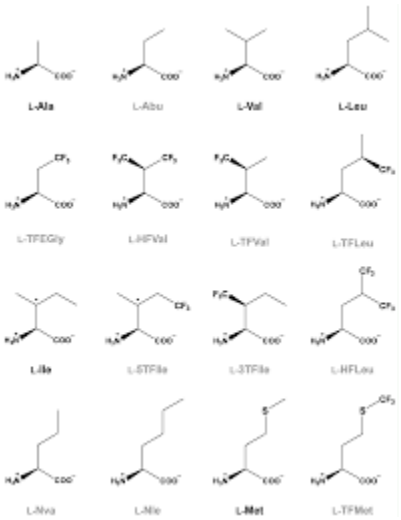
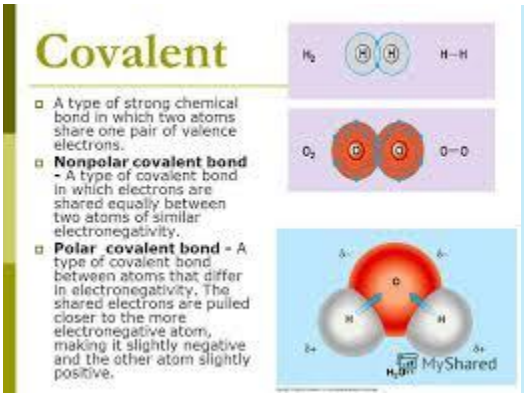
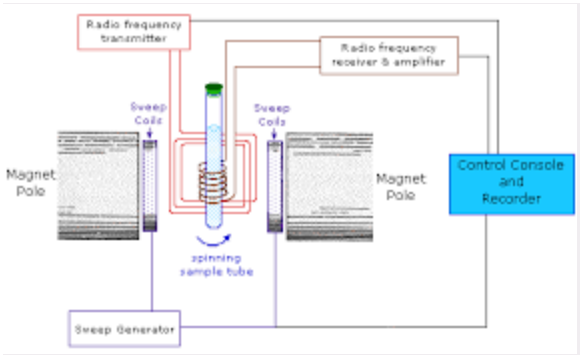


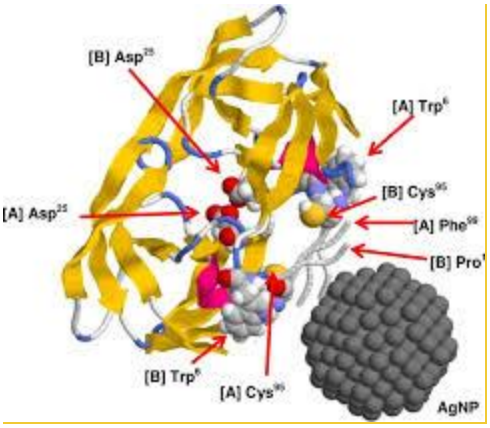
Figure 3: Stress-strain plot of untreated cotton fabric and fabric after treatment with different fluorine-containing monomers

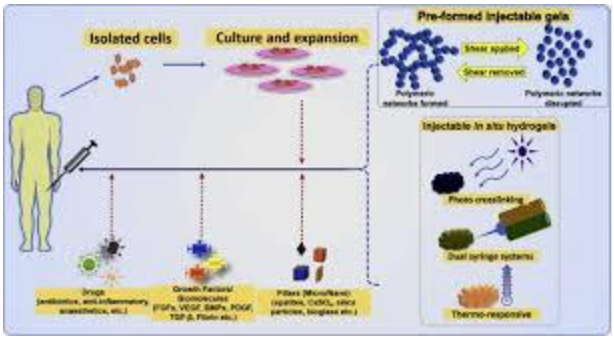


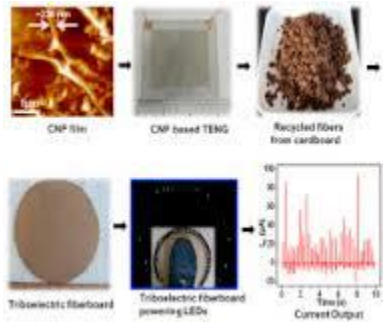




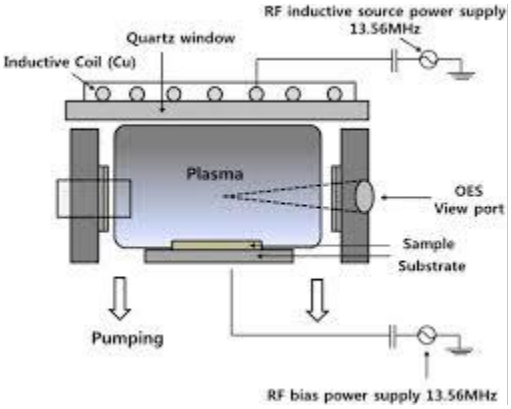


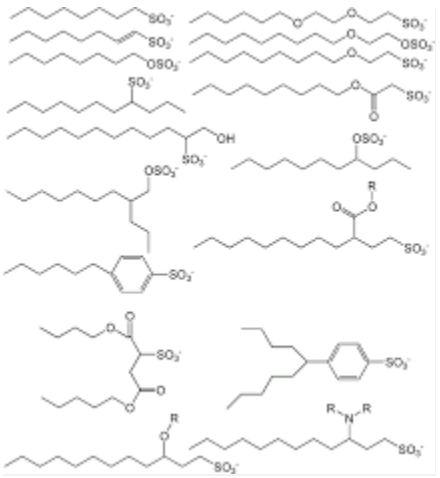

[B] Asp25
[A] Trp6
[A] Asp25
[B] Cys95
[A] Phe98
[B] Pro1
[B] Trp6
[A] Cys95
AgNP


Isolated cells
Culture and expansion
Pre-formed injectable gels
Injectable in situ hydrogels
Photo-crosslinking
Dual syringe systems
Thermo-responsive

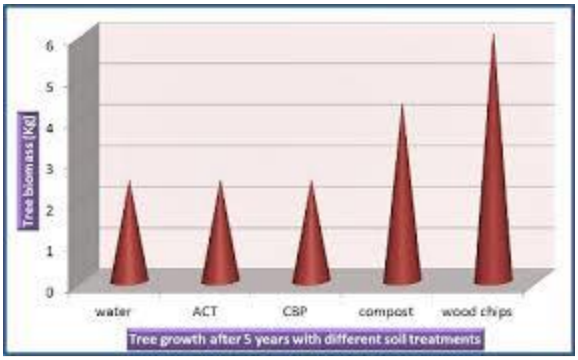

CNF film
CNF based TENG
Recycled fibers from cardboard
Triboelectric fiberboard
Triboelectric fiberboard powering LEDs
Time (s)
Current Output

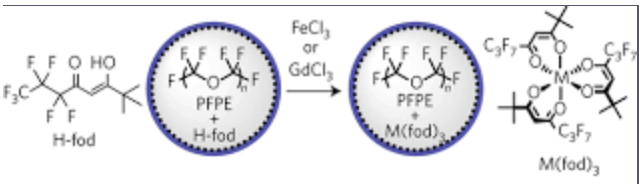



RF inductive source power supply 13.56MHz
Quartz window
Inductive Coil (Cu)
Plasma
OES View port
Sample Substrate
Pumping
RF bias power supply 13.56MHz






Tree biomass [Kg]
0
1
2
3
4
5
6
water
ACT
CBP
compost
wood chips
Tree growth after 5 years with different soil treatments

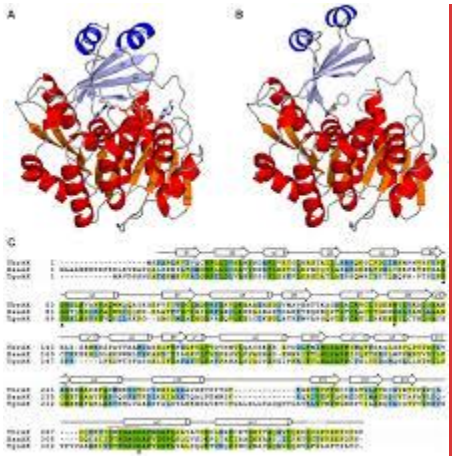


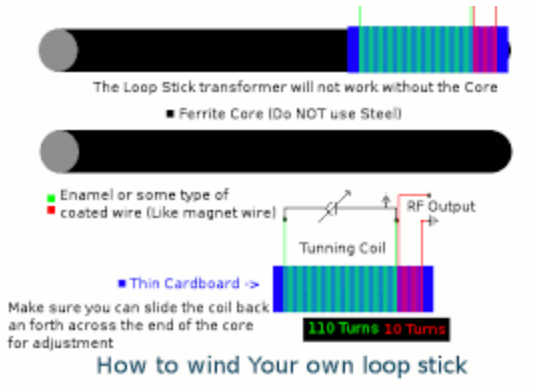
Metal (M)	None	Fe	Gd
R_1 (s^{-1})	2.28 ± 0.01	27.0 ± 0.1	12.8 ± 0.2
R_2 (s^{-1})	4.01 ± 0.03	85.6 ± 0.2	285 ± 3
R_2/R_1	1.8	3.2	22



European Journal of

Orthodon





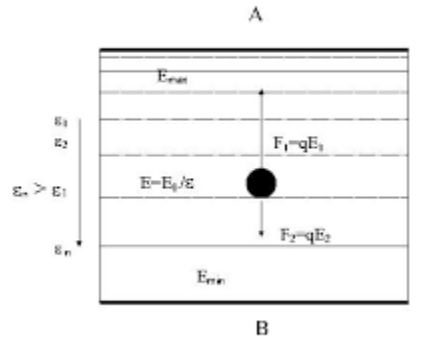


Fig. 3

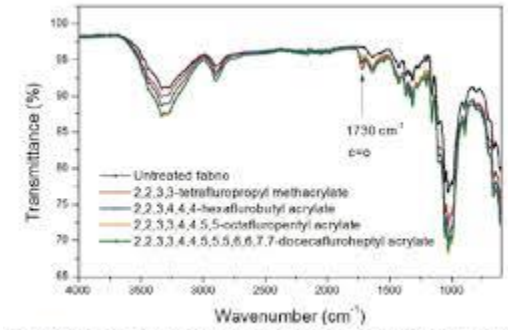
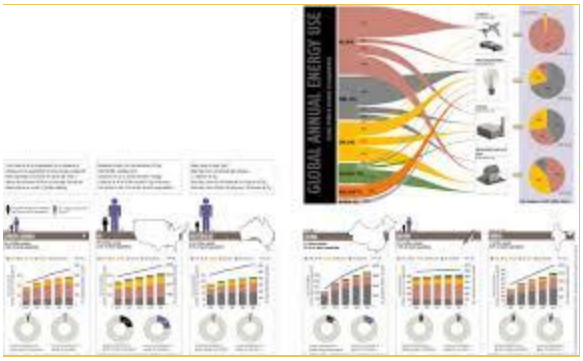
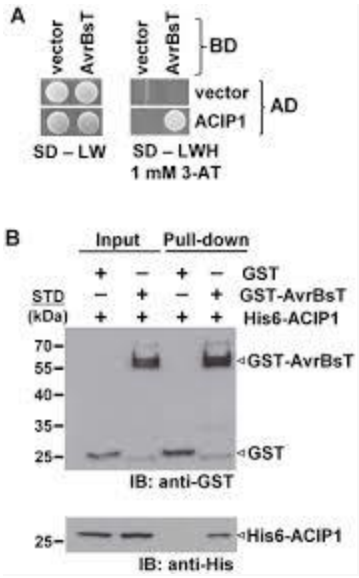


Figure 1: FTIR spectra of initial cotton fabrics treated with fluorine-containing monomers.













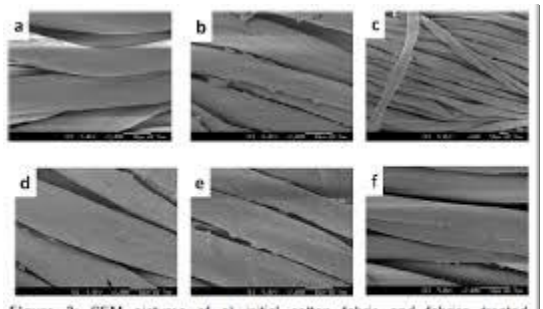
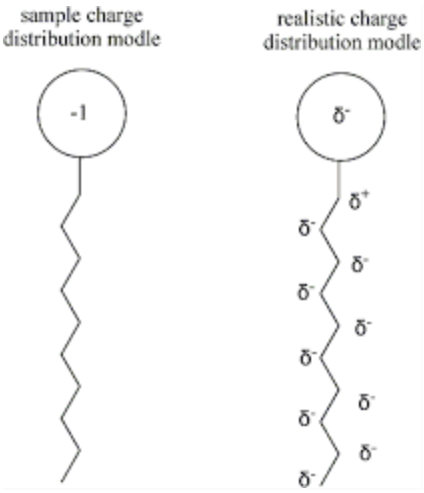
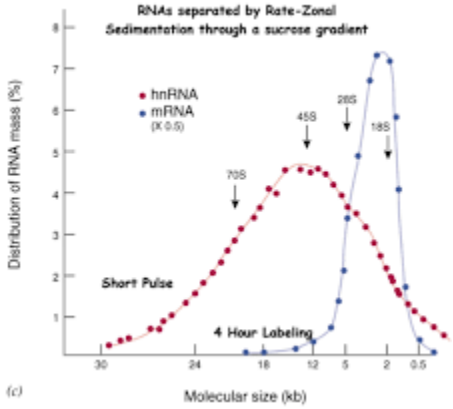
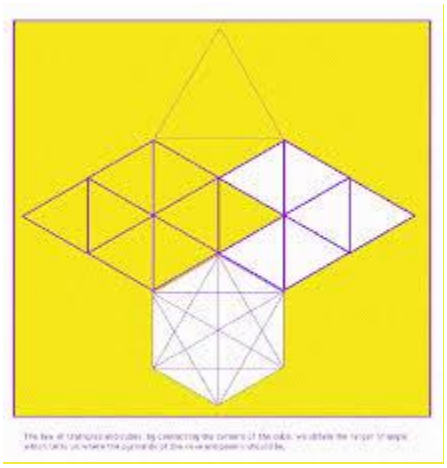


Figure 2: SEM pictures of a) initial cotton fabric and fabrics treated with b) 2,2,3,3-tetrafluoropropyl methacrylate c) high resolution of b), d) 2,2,3,4,4,4-hexafluorobutyl acrylate e) 2,2,3,3,4,4,5,5-octafluoropentyl acrylate f) 2,2,3,3,5,5,6,6,7,7-dodecafluoroheptyl acrylate.




sample charge
distribution modle
realistic charge
distribution modle
-1
δ-
δ+
δ-
δ-
δ-
δ-
δ-
δ-
δ-
δ-
δ-

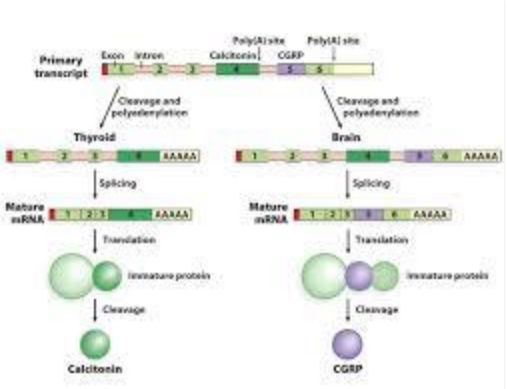

RNAs separated by Rate-Zonal
Sedimentation through a sucrose gradient
hnRNA
mRNA
(X 0.5)
45S
28S
18S
70S
Short Pulse
4 Hour Labeling
Distribution of RNA mass (%)
Molecular size (kb)
30
24
18
12
5
2
0.5
(c)

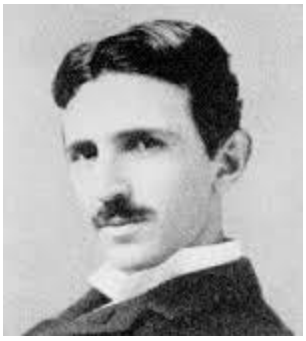


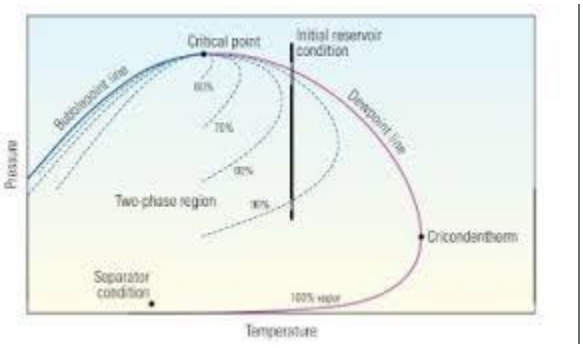




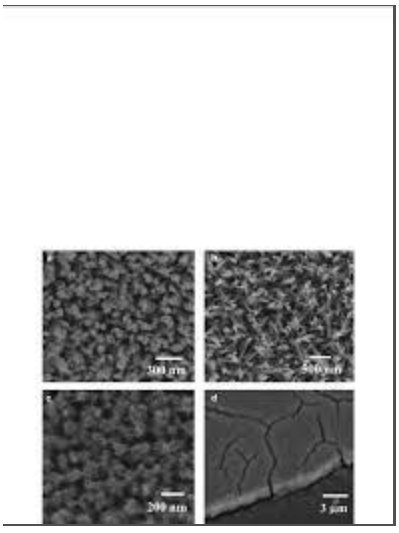



Primary transcript
Exon
Intron
Poly(A) site
Calcitonin
CGRP
Poly(A) site
Cleavage and polyadenylation
Cleavage and polyadenylation
Thyroid
Brain
AAAAA
Splicing
Splicing
Mature mRNA
Mature mRNA
Translation
Translation
Immature protein
Immature protein
Cleavage
Cleavage
Calcitonin
CGRP



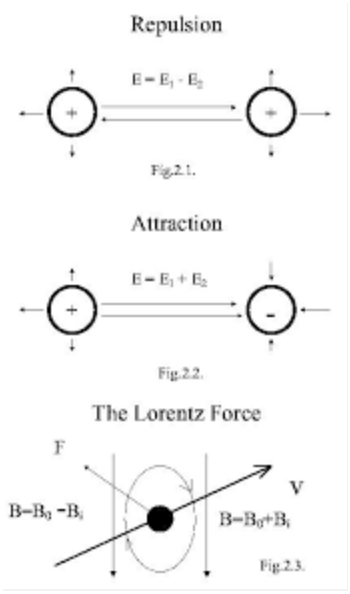

Critical point
Initial reservoir condition
Bubblepoint line
Dewpoint line
60%
70%
80%
90%
Two-phase region
Cricondentherm
Separator condition
100% vapor
Pressure
Temperature








Chakra Vajra
The two circles joined as one by Vortexijah into the 8 fold path of the Chakra Vajra Bodhisstva Lotus Vehicle where Infinity and zer0 are ONE


Repulsion
E = E1 - E2
Fig.2.1.
Attraction
E = E1 + E2
Fig.2.2.
The Lorentz Force
F
V
B=B0 -Bi
B=B0+Bi
Fig.2.3.



Levels of Protein Organization

- Secondary structure
 - The result of the hydrogen bonds between amino acids
 - A polypeptide can form a coil-like shape (alpha helix) or a folded fan-like shape (beta pleated sheet)

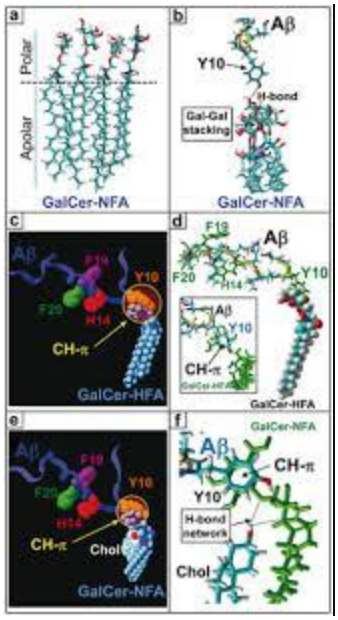
Factors Governing Chemical Shifts, (b) Electronic Effects

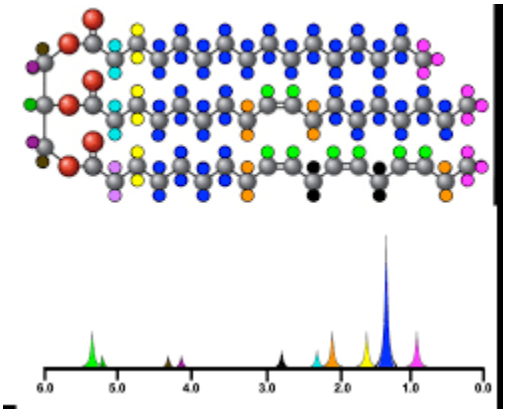
- As the electronegativity, or δ+ character, of an atom attached to a particular nucleus increases then the δ value increases:

H_3C-Si δ_C & δ_H 0 ppm {tetramethylsilane [TMS] $(H_3C)_4Si$, used as standard, i.e. δ 0 ppm, for ^1H, ^{13}C and ^{29}Si NMR}

H_3C-C	δ_C 15 ppm
H_3C-C=O	δ_C 25 ppm N.B. O "far" away
H_3C-N	δ_C 30 ppm
H_3C-Br	δ_C 33 ppm
H_3C-Cl	δ_C 35 ppm
H_3C-O	δ_C 50 ppm N.B. O near - effect large!
H_3C-F	δ_C 75 ppm

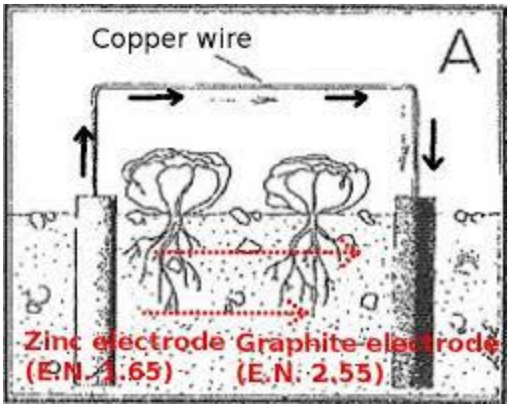
Date	Time (Aproximate to 10 minutes, more or less)	Weighted (Aproximate to 500g, more or less)	Normal Weight	Type of Scale	Report Number
03/0900	23h 40m	43.248Kg	41.600Kg	Electronic	1-9-00
12/0900	00h 20m	43.876Kg	41.600Kg	Electronic	1-9-00
18/0900	00h 25m	5 Kg	41.600Kg	Mechanical	2-9-00
21/0900	00h 50m	7.200Kg	41.600Kg	Mechanical	3-9-00
22/0900	04h 10m	4.700Kg	41.600Kg	Mechanical	4-9-00
27/0900	00h 20m	5.300Kg	41.600Kg	Mechanical	5-9-00
29/0900	01h 35m	5.600Kg	41.600Kg	Mechanical	6-9-00
//**	* :**	78.800Kg	41.600Kg	Mechanical	6-9-00
11/1000	22h 40m	41.500kg	42Kg	Mechanical	1-10-00
15/1000	00h 20m	6.100Kg	42Kg	Mechanical	2-10-00
16/1000	03h 0m	5.200Kg	42Kg	Mechanical	3-10-00
17/1000	00h 25m	5.900Kg	42Kg	Mechanical	4-10-00
19/1000	05h 10m	3.800Kg	42Kg	Mechanical	5-10-00
23/1000	04h 45m	3.600Kg	42Kg	Mechanical	6-10-00
27/1000	01h 40m	4.300Kg	42Kg	Mechanical	7-10-00
28/1000	02h 50m	5.300Kg	42Kg	Mechanical	8-10-00
09/1100	01h 40m	3.200Kg	42Kg	Mechanical	1-11-00
10/1100	03h 10m	00000Kg	42Kg	Mechanical	2-11-00
19/1100	00h 35m	00000Kg	42Kg	Mechanical	3-11-00
23/1100	04h 40m	4.300Kg	42Kg	Mechanical	4-11-00
27/1100	00h 10m	4.900Kg	42Kg	Mechanical	5-11-00
28/1100	01h 40m	4.200Kg	42Kg	Mechanical	6-11-00





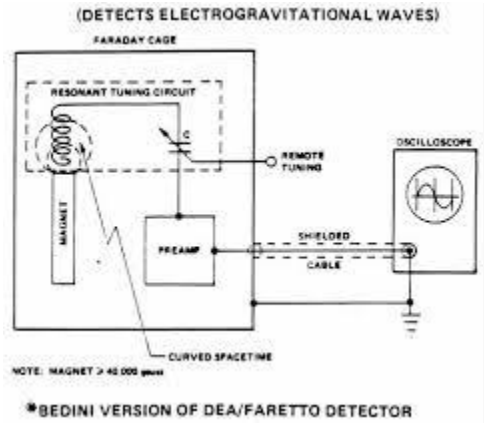




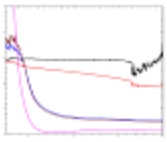

Copper wire
A
Zinc electrode
(E.N. 1.65)
Graphite electrode
(E.N. 2,55)

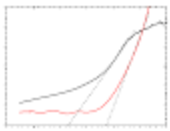


Mg^{++}

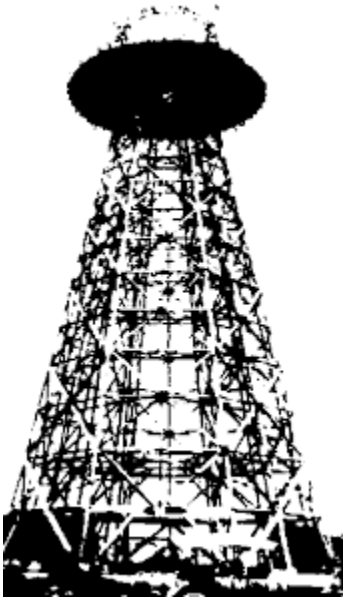

(DETECTS ELECTROGRAVITATIONAL WAVES)
FARADAY CAGE
RESONANT TUNING CIRCUIT
REMOTE TUNING
OSCILLOSCOPE
MAGNET
PREAMP
SHIELDED CABLE
CURVED SPACETIME
*BEDINI VERSION OF DEA/FARETTO DETECTOR


SCIENTIFIC METHOD
PURPOSE
State the problem.
RESEARCH
Find out about the topic.
HYPOTHESIS
Predict the outcome to the problem.
EXPERIMENT
Develop a procedure to test the hypothesis.
ANALYSIS
Record the results of the experiment.
CONCLUSION
Compare the hypothesis to the experiment's conclusion.

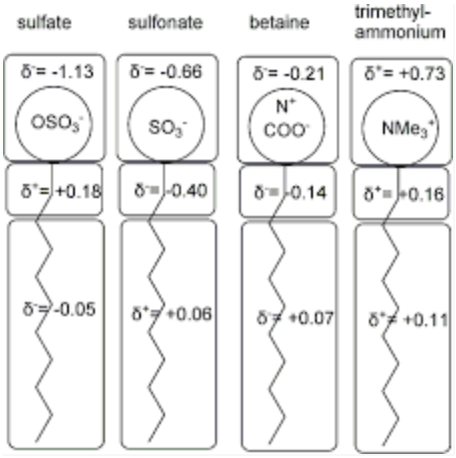


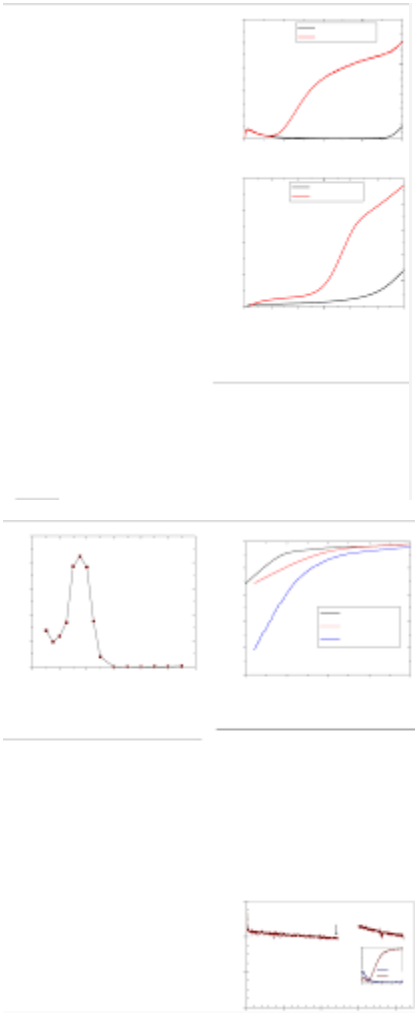






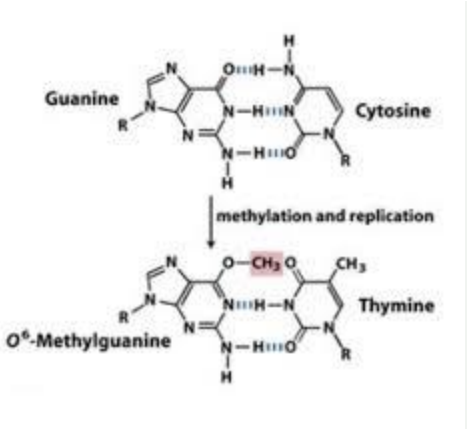

watermax
FOR GREENHOUSE & HYDROPONICS GROWING


sulfate
sulfonate
betaine
trimethyl-ammonium
δ⁻= -1.13
OSO3⁻
δ⁻= -0.66
SO3⁻
δ⁻= -0.21
N⁺
COO⁻
δ⁺= +0.73
NMe3⁺
δ⁺= +0.18
δ⁻= -0.40
δ⁻= -0.14
δ⁺= +0.16
δ⁻= -0.05
δ⁺= +0.06
δ⁻= +0.07
δ⁺= +0.11

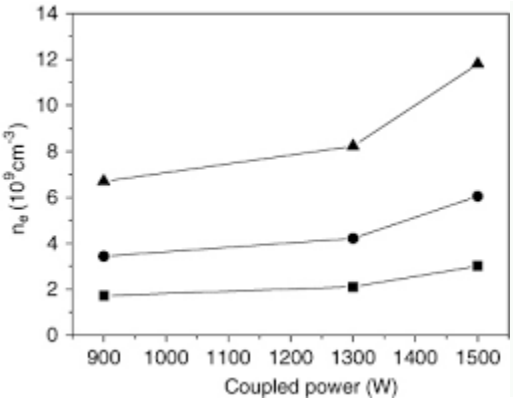


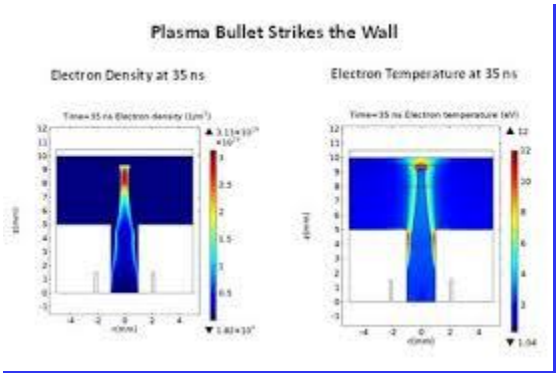

RIL 2014

Bonding Lab


Guanine
Cytosine
methylation and replication
Thymine
O⁶-Methylguanine

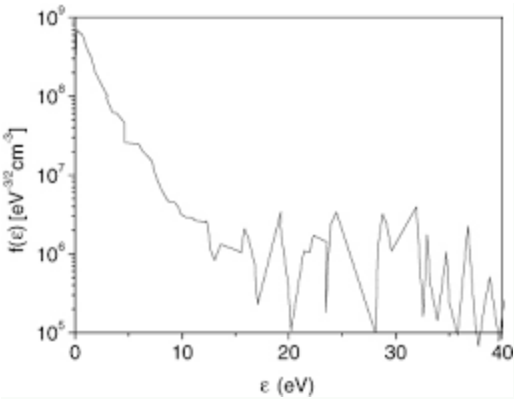

6-5226 Orient, N.Y. Terry Point
AERIALS ONLY 508-295-5551 (c)


n_e (10^9cm^{-3})
Coupled power (W)

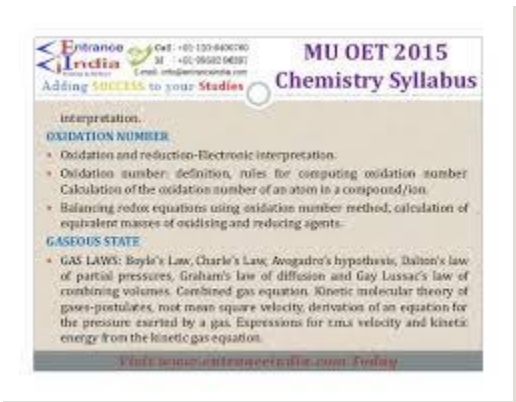

Plasma Bullet Strikes the Wall
Electron Density at 35 ns
Electron Temperature at 35 ns



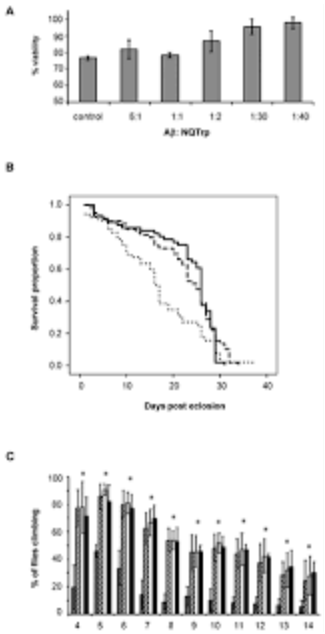


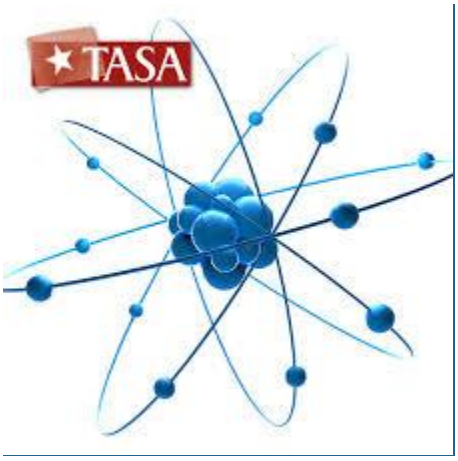

f(ε) [eV$^{-3/2}$cm^{-3}]
ε (eV)


Hydrophobic surface
Hydrophilic surface
Hydrophobic surface
Hydrophilic surface
Hydrophobic Surface x Acqua Hydrophilic Surface - Static Contact Angle


Entrance India
Adding SUCCESS to your Studies
MU OET 2015
Chemistry Syllabus
interpretation.
OXIDATION NUMBER
• Oxidation and reduction-Electronic interpretation.
• Oxidation number: definition, rules for computing oxidation number Calculation of the oxidation number of an atom in a compound/ion.
• Balancing redox equations using oxidation number method; calculation of equivalent masses of oxidising and reducing agents.
GASEOUS STATE
• GAS LAWS: Boyle's Law, Charle's Law, Avogadro's hypothesis, Dalton's law of partial pressures, Graham's law of diffusion and Gay Lussac's law of combining volumes. Combined gas equation. Kinetic molecular theory of gases-postulates, root mean square velocity, derivation of an equation for the pressure exerted by a gas. Expressions for r.m.s velocity and kinetic energy from the kinetic gas equation.



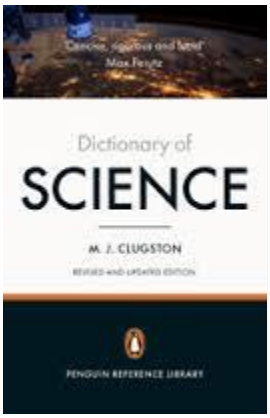


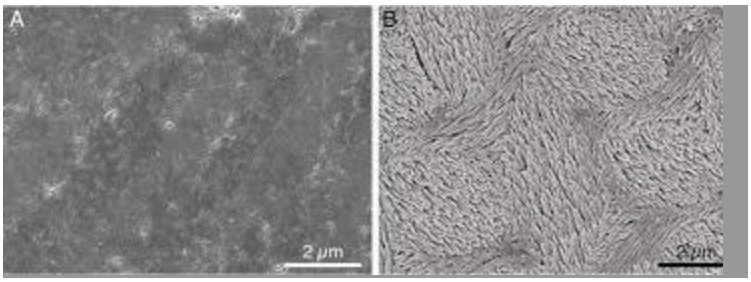


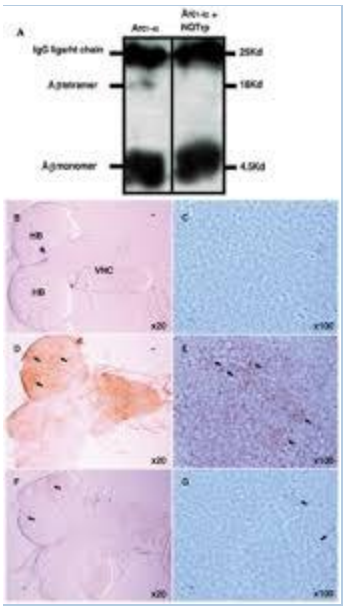


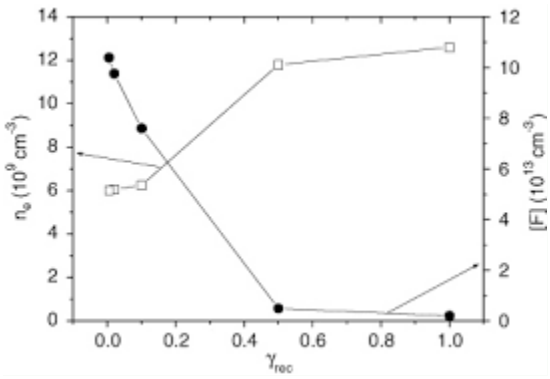
Lipid	V_i ($mN.m^{-1}.min^{-1}$)	$\Delta\pi_{max}$ ($mN.m^{-1}$)
GalCer-HFA	0.266 ± 0.023	12.2 ± 0.9
GalCer-HFA:cholesterol (1:1; mol:mol)	0.031 ± 0.004	3.2 ± 0.2
GalCer-NFA	0.033 ± 0.004	1.5 ± 0.1
GalCer-NFA:cholesterol (1:1; mol:mol)	0.107 ± 0.008	10.4 ± 0.6
GalCer-C12	0.091 ± 0.008	2.1 ± 0.1
GalCer-C12:cholesterol (1:1, mol:mol)	0.117 ± 0.009	12.2 ± 1.2
Cholesterol	0.000 ± 0.000	1.0 ± 0.1
PS:cholesterol (1:1, mol:mol)	0.000 ± 0.000	1.4 ± 0.1
LacCer-C8	0.114 ± 0.009	2.6 ± 0.2
LacCer-C8:cholesterol (1:1, mol:mol)	0.335 ± 0.028	16.7 ± 1.2
GM3	0.169 ± 0.013	4.1 ± 0.3
GM3:cholesterol (1:1, mol:mol)	0.254 ± 0.019	10.1 ± 0.7
GM1	0.085 ± 0.007	6.3 ± 0.6
GM1:cholesterol (1:1, mol:mol)	0.161 ± 0.014	9.8 ± 0.7
GalCer-HFA subphase NaCl 0.1 M	0.555 ± 0.046	18.4 ± 1.3
GalCer-HFA subphase NaCl 1 M	0.822 ± 0.077	21.3 ± 1.8
GalCer-HFA subphase NaF^- 0.1 M	0.078 ± 0.005	3.1 ± 0.2
GalCer-HFA subphase NaF^- 1 M	0.000 ± 0.00	0.0 ± 0.0

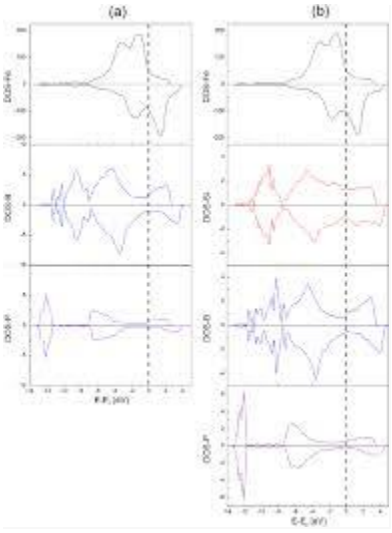
Each monolayer was prepared at initial pressure (π_i) of 13–15 $mN.m^{-1}$.
The synthetic $A\beta_{1-40}$ peptide was injected in the subphase which consisted of pure water or, when indicated, of NaCl or NaF solutions. Each experiment was performed in triplicate. The data are expressed as the mean ± SD (n = 3). An initial v_i with a null value means that there is no increase in the surface pressure over the 20 first minutes of incubation.
doi:10.1371/journal.pone.0009079.t002











Food proteins

Chapter: 1. General (physicochemical) properties of proteins and Main sources of food proteins

By
Tahseen Fatima Miano

$$\left(\rho + \varepsilon_0 \frac{\partial S}{\partial t}\right)\mathbf{E} + \left(\mathbf{J} - \frac{1}{\lambda_0 \mu_0}\nabla S\right)\times\mathbf{B} =$$

$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial S}{\partial t}\mathbf{E} - \frac{1}{\lambda_0 \mu_0}\nabla S\times\mathbf{B} =$$

$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} - \varepsilon_0 S\frac{\partial \mathbf{E}}{\partial t} - \frac{1}{\lambda_0 \mu_0}\nabla S\times\mathbf{B} =$$

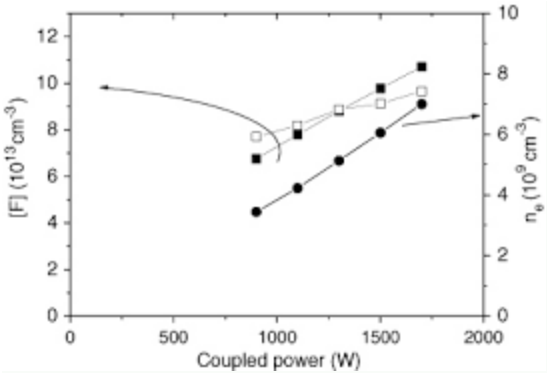
$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} + S\left(\mathbf{J} - \frac{1}{\lambda_0 \mu_0}\nabla S - \frac{1}{\mu_0}\nabla\times\mathbf{B}\right) - \frac{1}{\lambda_0 \mu_0}\nabla S\times\mathbf{B} =$$

$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B} + \mathbf{J}S) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} - S\left(\frac{1}{\lambda_0 \mu_0}\nabla S + \frac{1}{\mu_0}\nabla\times\mathbf{B}\right) - \frac{1}{\lambda_0 \mu_0}\nabla S\times\mathbf{B}$$





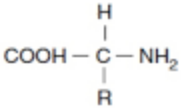


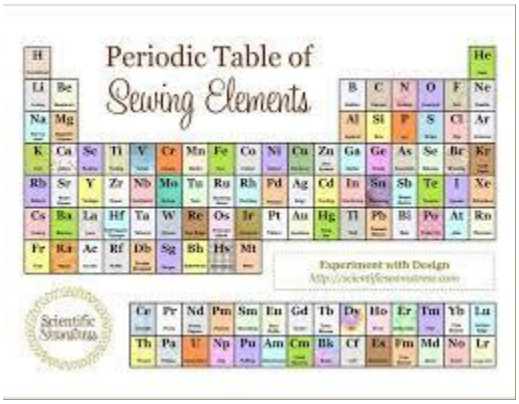


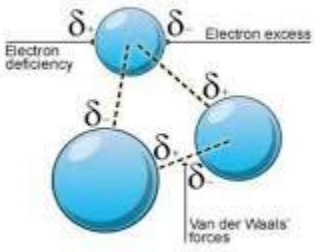
CHEMICAL COMPOSITION OF AMINO ACID

- ✓Consists of a hydrogen (H),
- ✓Amine (NH_2)group,
- ✓Carboxyl (COOH) group,
- ✓ Side group (R) which are covalently linked to a central α-carbon.

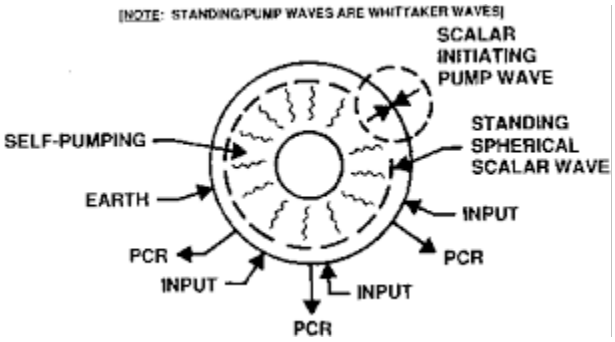
✓ The structures of amino acids differ only in the different structure of their side group (R).







[NOTE: STANDING/PUMP WAVES ARE WHITTAKER WAVES]





Physicochemical properties of the 20 amino acids

- ✓ Molecular weights of amino acids range from 75.1 to 204.2 daltons.
- ✓ The MW of an amino acid residue is calculated by subtracting the MW of water, 18 daltons.
- ✓ Hydrophobicity (or hydrophilicity) of the side groups of amino acids that make up the protein influences protein folding and thus the physical properties of that protein.
- ✓ Range amino acids vary in their degree of hydrophobicity depending on the constituents
- ✓Amino acids display ionization behavior and can serve as hydrogen donors or acceptors,
- ✓ Behave as acids and bases.



✓**Proline**

✓Side chain are covalently linked to the central α-carbon and to the nitrogen of the amine group forming a cyclic structure.

✓Group (R) determines,

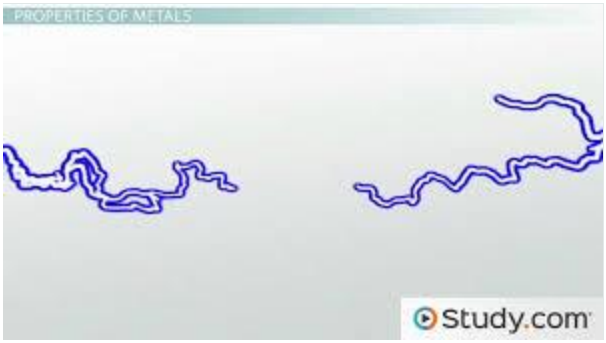
✓Size,

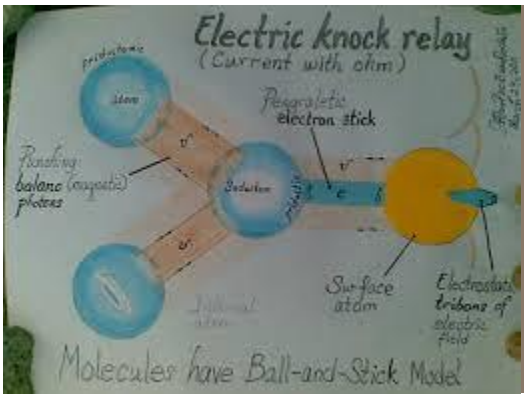
✓Net charge,

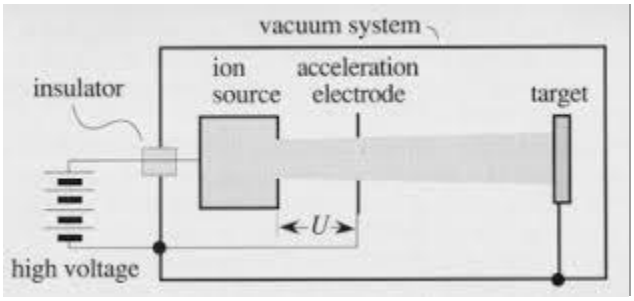
✓Solubility,

✓ Chemical reactivity

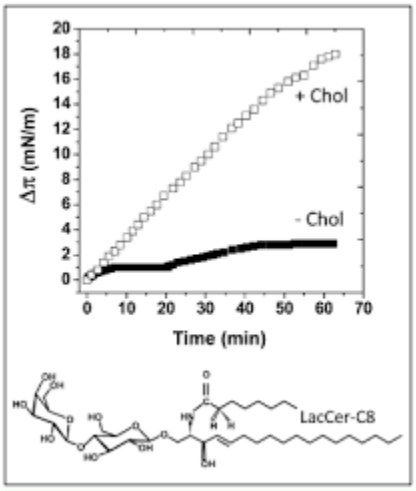
✓ Hydrogen bonding ability

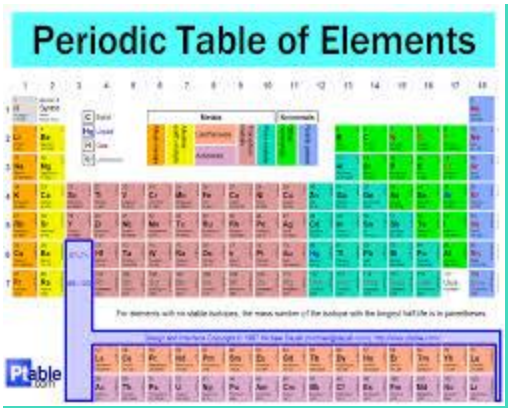


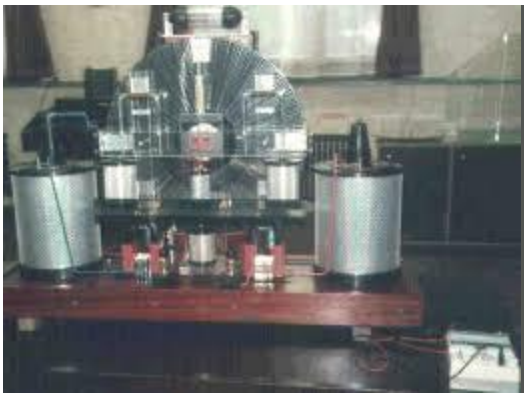


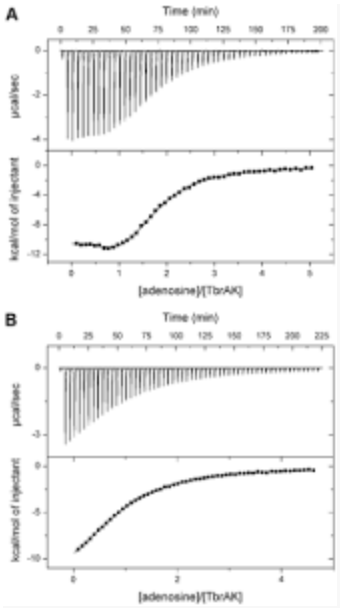


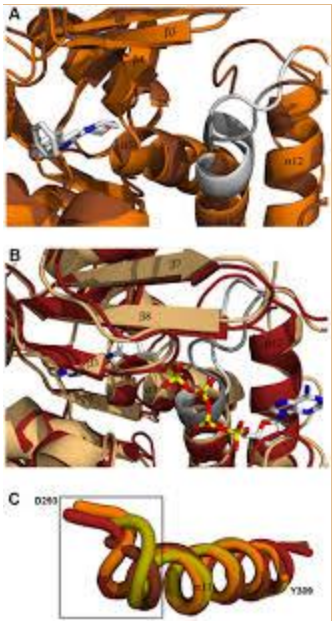




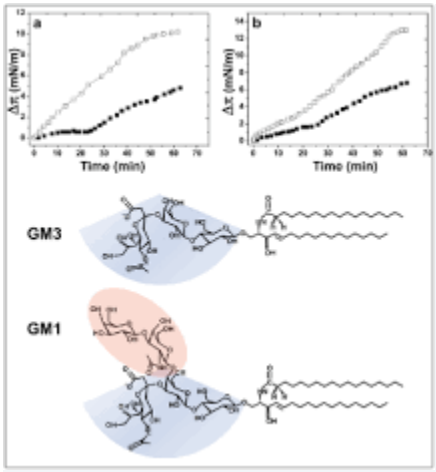


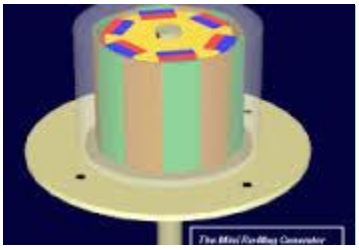



A
Time (min)
ucal/sec
kcal/mol of injectant
[adenosine]/[TbrAK]
B
Time (min)
ucal/sec
kcal/mol of injectant
[adenosine]/[TbrAK]

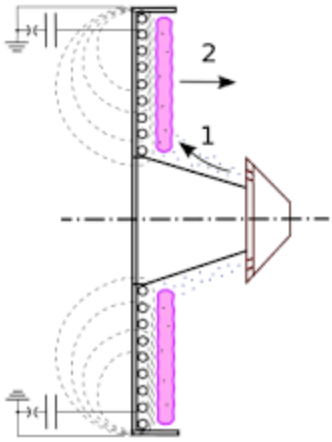

A
B
C
D263
Y309

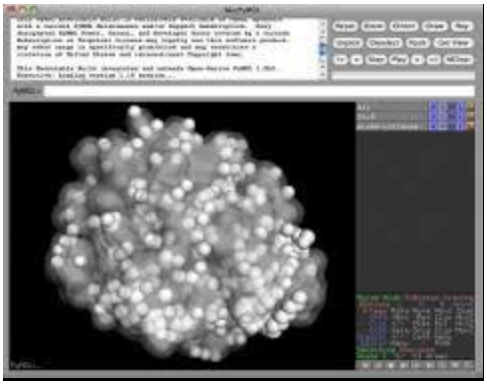



a
b
Δπ (mN/m)
Time (min)
GM3
GM1

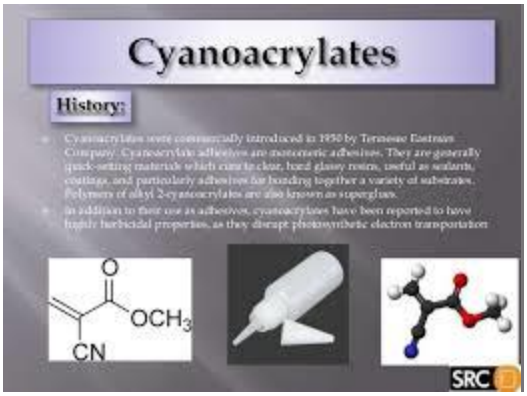




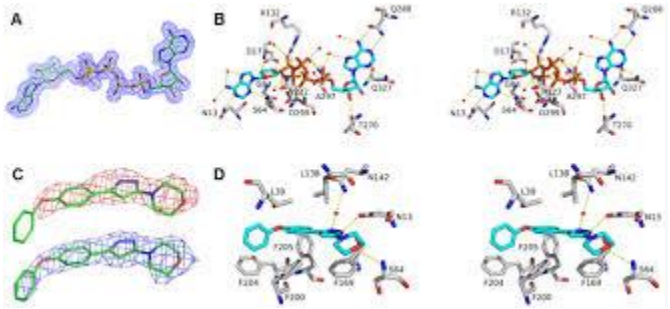

2
1

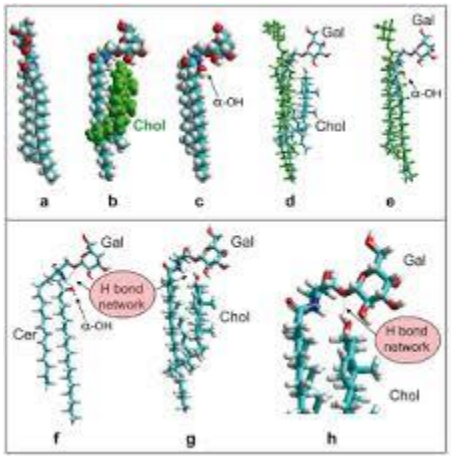




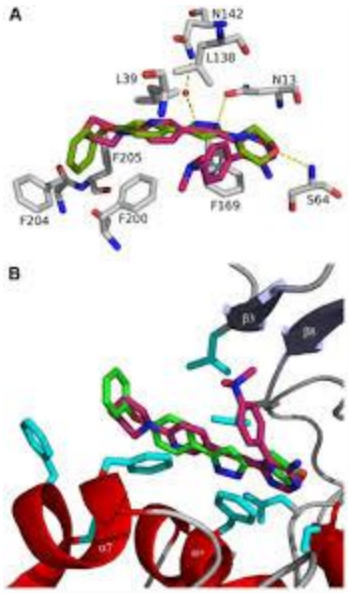

Cyanoacrylates
History:
Cyanoacrylates were commercially introduced in 1950 by Tennessee Eastman Company. Cyanoacrylate adhesives are monomeric adhesives. They are generally quick-setting materials which cure to clear, hard glassy resins, useful as sealants, coatings, and particularly adhesives for bonding together a variety of substrates. Polymers of alkyl 2-cyanoacrylates are also known as superglues.
In addition to their use as adhesives, cyanoacrylates have been reported to have highly herbicidal properties, as they disrupt photosynthetic electron transportation
O
OCH3
CN
SRC

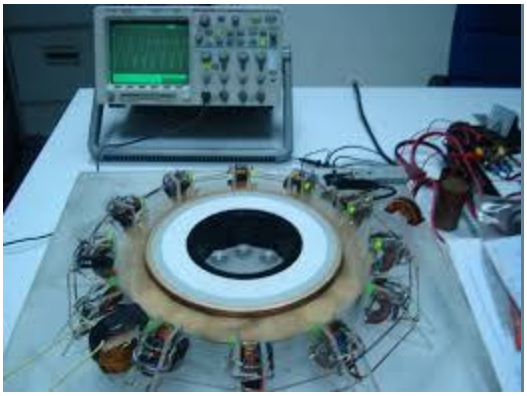


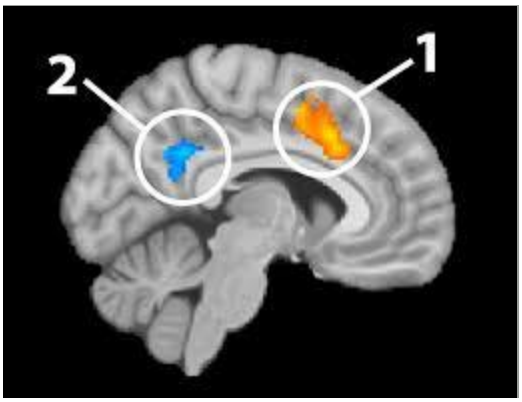

A
B
C
D


Chol
α-OH
Gal
Chol
α-OH
Gal
a
b
c
d
e
Gal
H bond network
α-OH
Cer
Gal
Chol
Gal
H bond network
Chol
f
g
h

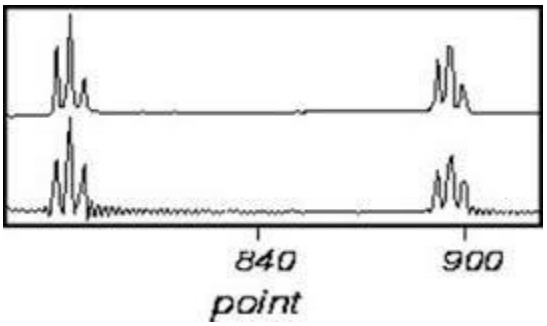

INDUSTRIES
Home of
REDDI

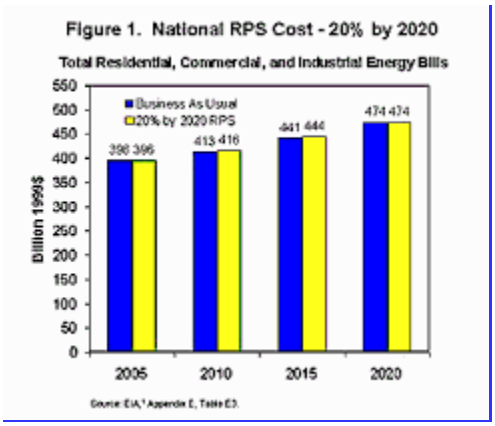

A
N142
L138
L39
N13
F205
F204
F200
F169
S64
B

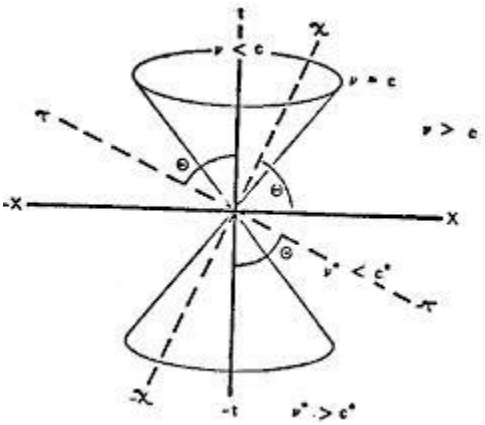



2
1



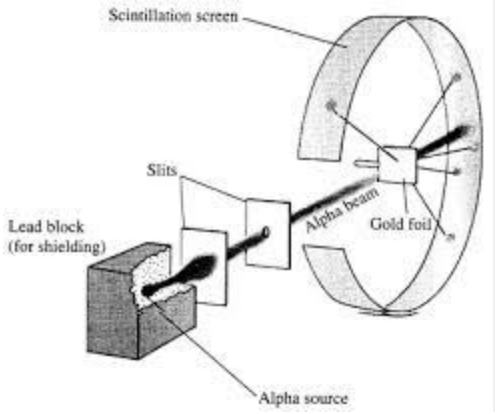

840
900
point

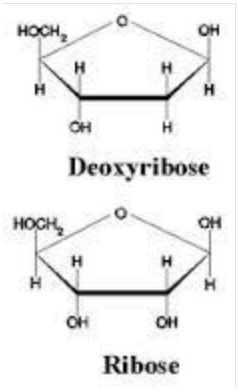

Figure 1. National RPS Cost - 20% by 2020
Total Residential, Commercial, and Industrial Energy Bills
Business As Usual
20% by 2020 RPS
Billion 1999$
550
500
450
400
350
300
250
200
150
100
50
0
396 396
413 416
441 444
474 474
2005
2010
2015
2020
Source: EIA,[1] Appendix E, Table E3.


t
x
v < c
v = c
v > c
θ
θ
-x
x
θ
v' < c'
x'
-x'
-t
v' > c'



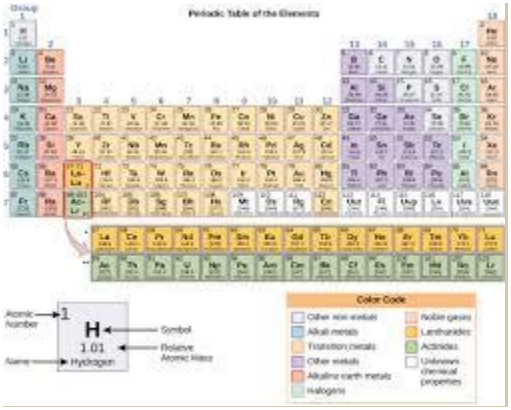



Scintillation screen
Slits
Alpha beam
Gold foil
Lead block
(for shielding)
Alpha source

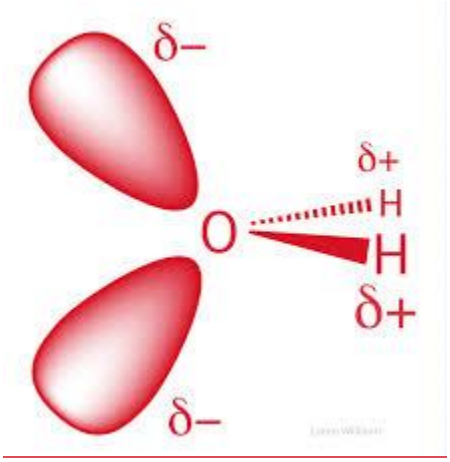

Deoxyribose
Ribose

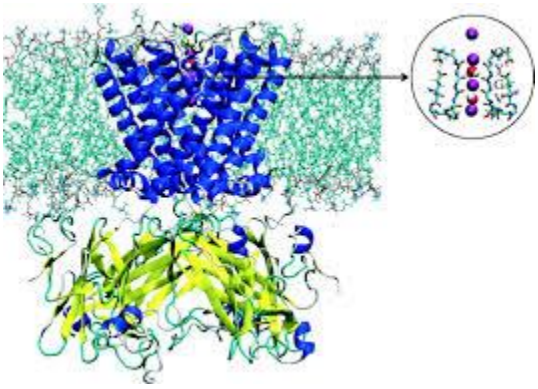

OOKLA SPEEDTEST
11/1/2012
1:35 AM GMT
DOWNLOAD
64.34 Mb/s
UPLOAD
11.81 Mb/s
PING
14 ms
GRADE: A-
(FASTER THAN 84% OF US)
ISP: COX ★★★
SERVER: DALLAS, TX (~ 200 mi)

6 days ago

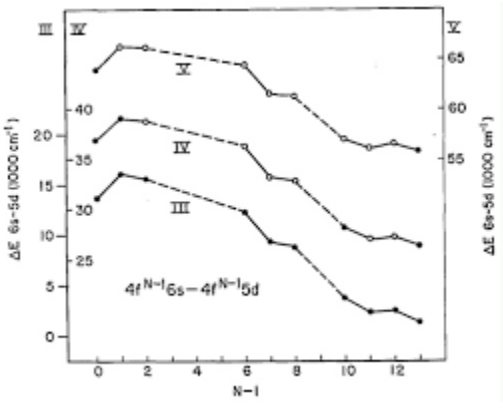





δ−
δ+
O
H
H
δ+
δ−






ΔE 6s–5d (1000 cm⁻¹)
N–l
4f^N⁻¹6s–4f^N⁻¹5d

ATOM

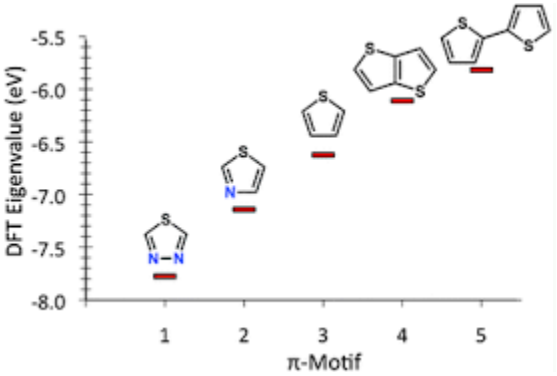
Acids & Bases

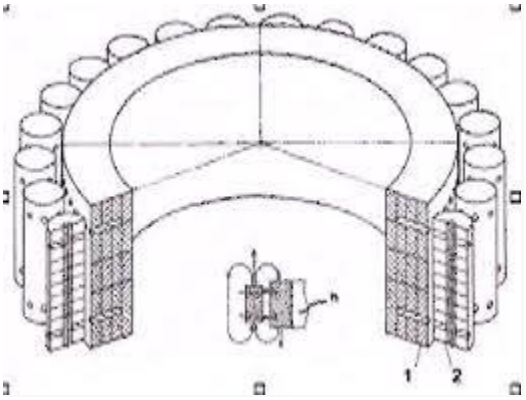
↑ electronegativity
↑ acidity
↓ basicity

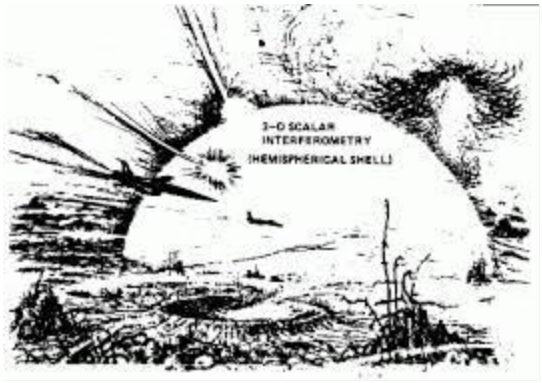
ex.

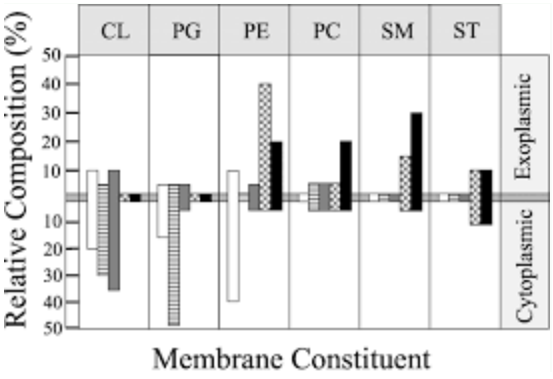
CH_3-OH stronger acid

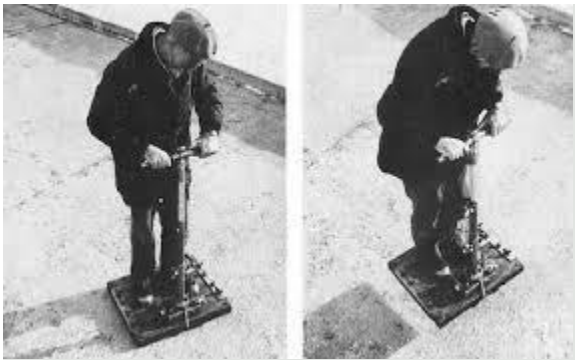
CH_3-NH_2 weaker



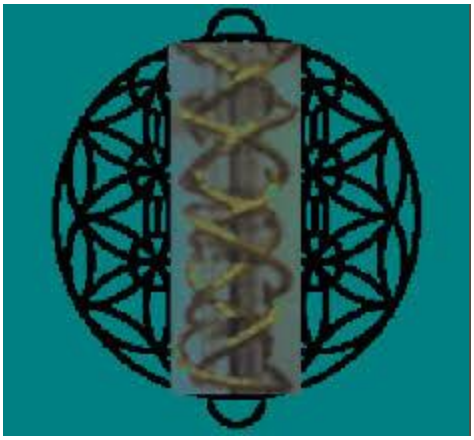


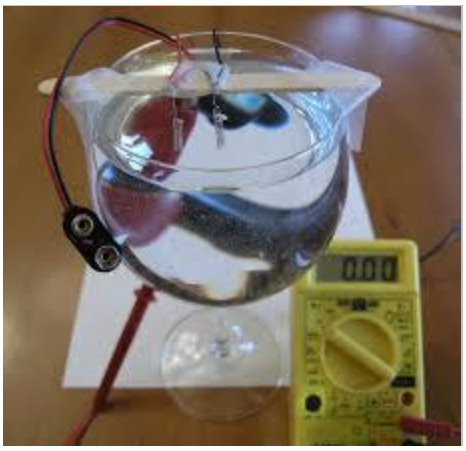


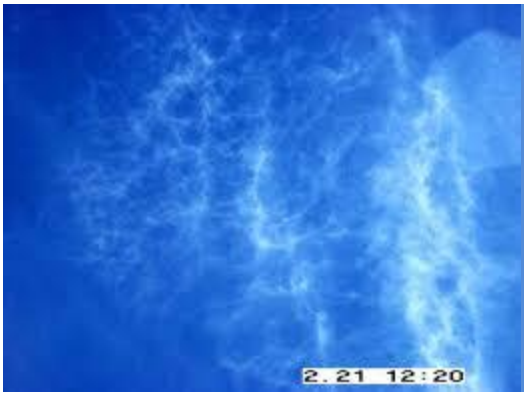




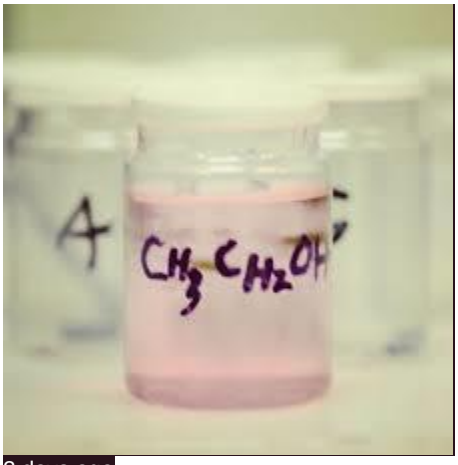
ARCOTEQ



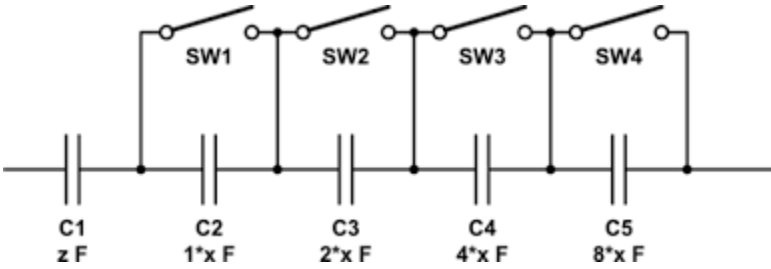


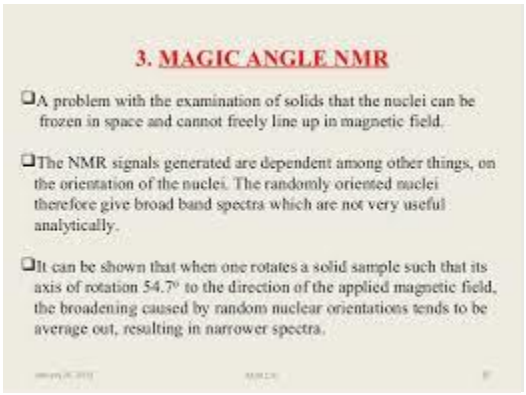






2 days ago



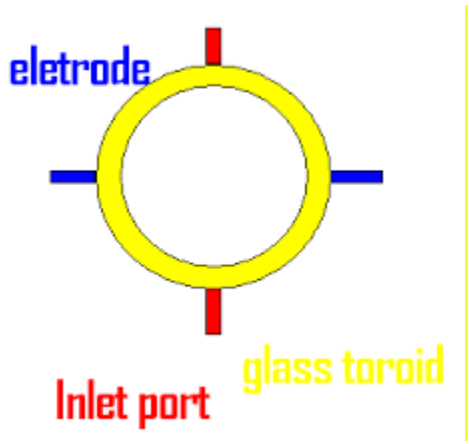


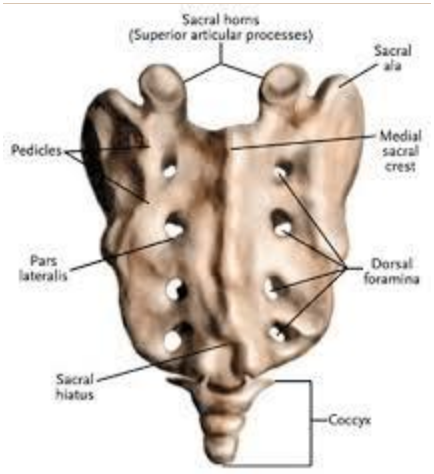
3. MAGIC ANGLE NMR

- A problem with the examination of solids that the nuclei can be frozen in space and cannot freely line up in magnetic field.
- The NMR signals generated are dependent among other things, on the orientation of the nuclei. The randomly oriented nuclei therefore give broad band spectra which are not very useful analytically.
- It can be shown that when one rotates a solid sample such that its axis of rotation 54.7° to the direction of the applied magnetic field, the broadening caused by random nuclear orientations tends to be average out, resulting in narrower spectra.



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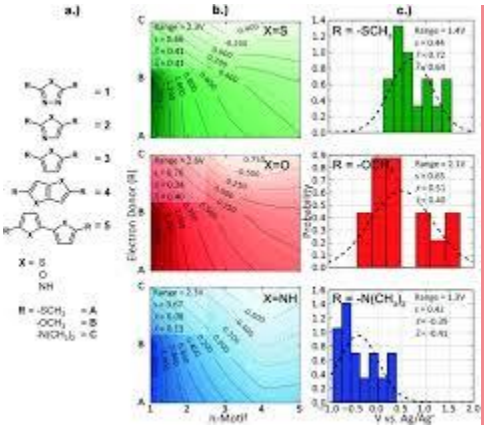


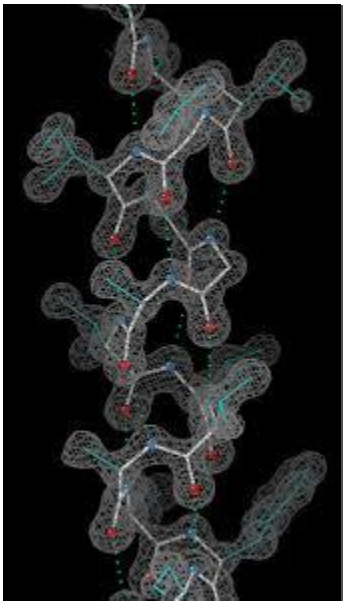




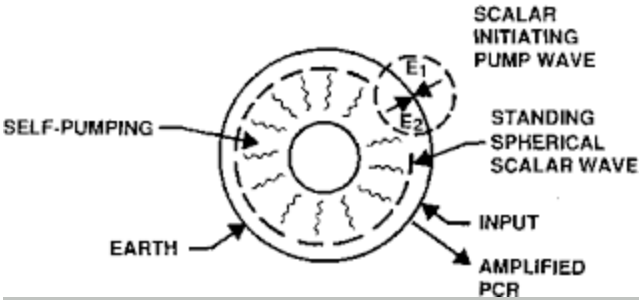


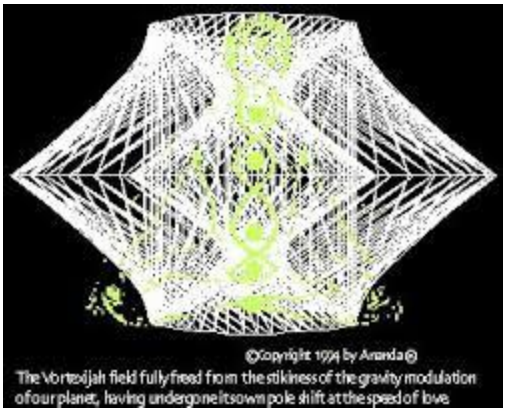


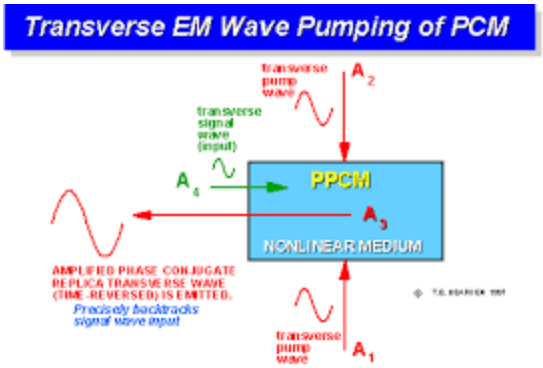




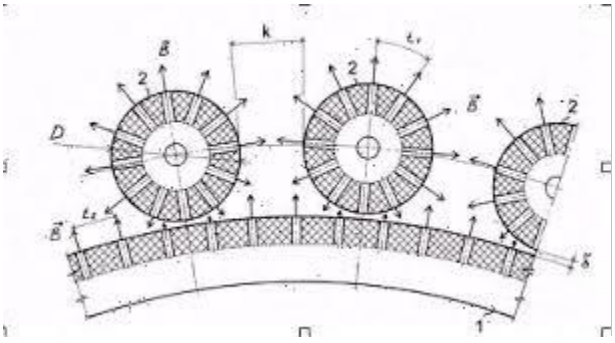
(NOTE: STANDING/PUMP WAVES ARE WHITTAKER WAVES)

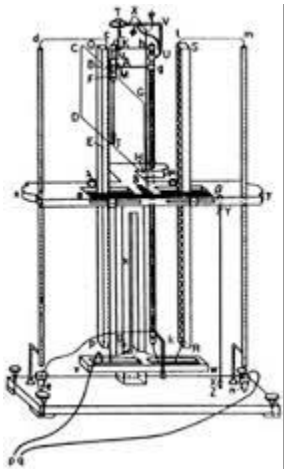




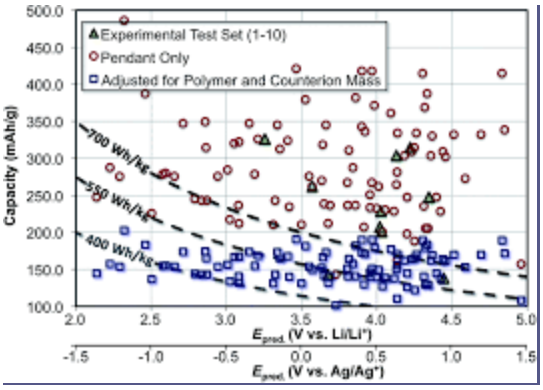

Transverse EM Wave Pumping of PCM
transverse pump wave
A2
transverse signal wave (input)
A4
PPCM
A3
NONLINEAR MEDIUM
AMPLIFIED PHASE CONJUGATE REPLICA TRANSVERSE WAVE (TIME-REVERSED) IS EMITTED.
Precisely backtracks signal wave input
transverse pump wave
A1

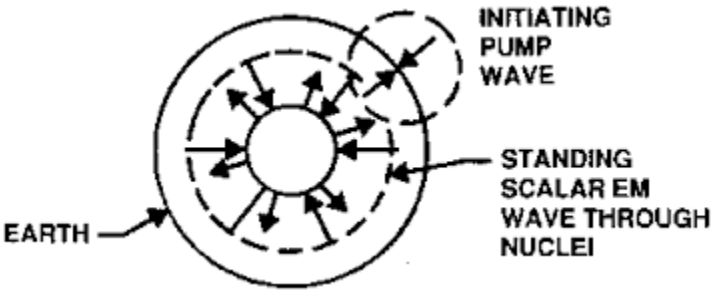

BEARDEN
FER DE LANCE
12.14 10:24
BRIEFING ON SOVIET SCALAR ELECTROMAGNETIC WEAPONS

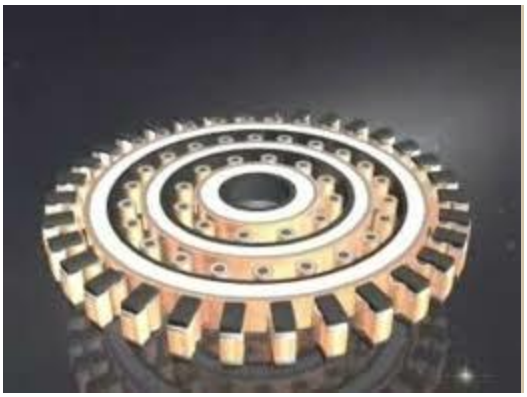







Experimental Test Set (1-10)
Pendant Only
Adjusted for Polymer and Counterion Mass
700 Wh/kg
550 Wh/kg
400 Wh/kg
Capacity (mAh/g)
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
2.0
2.5
3.0
3.5
4.0
4.5
5.0
E prod (V vs. Li/Li+)
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
E prod (V vs. Ag/Ag+)


INITIATING PUMP WAVE
STANDING SCALAR EM WAVE THROUGH NUCLEI
EARTH

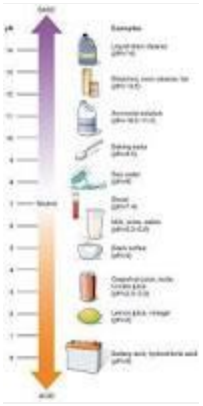


•Field sweep method

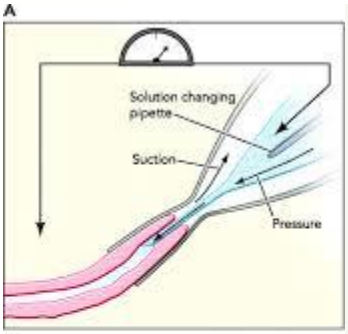
•There is a relationship between the resonance frequency of the nucleus and the strength of the magnetic field in which the sample is placed

•If the RF radiation is constant, in order to bring their resonance, the precession of the nucleus is to be changed by changing the applied magnetic field.

•Generally the field sweep method is regarded as better because it is easier to vary the magnetic field than the RF radiation so as to bring about resonance in nuclei.

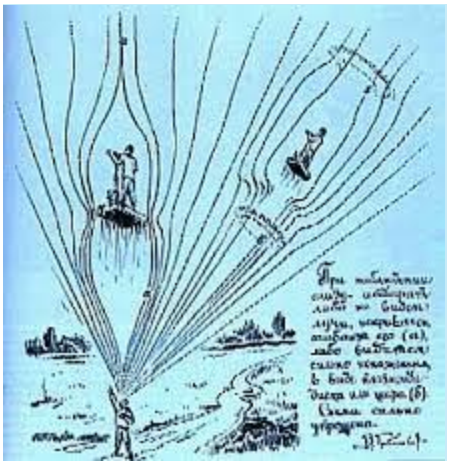


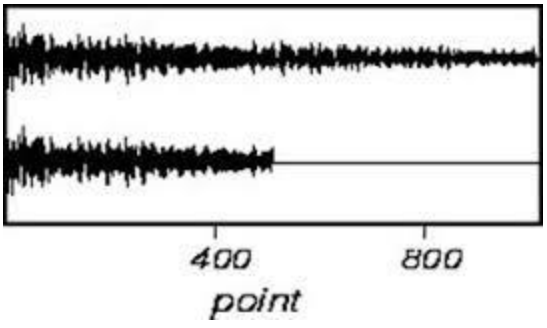










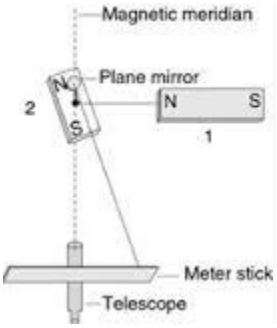




openstax COLLEGE

- All nuclei carry a charge. In some nuclei this charge spins on the nuclear axis and this circulation of nuclear charge generates a magnetic dipole along the axies.
- The nuclei of atoms are composed of protons and neutrons. Like electrons, these particle also have the properties to spin on their own axis and each of them possesses angular momentum1/2(h/2π)

 in accordance with the quantum theory. The net resultant of the angular momentum of all nuclear particles is called ***nuclear spin.***
- For a nucleus having a spin quantum number I, these are(2I +1) spin states.

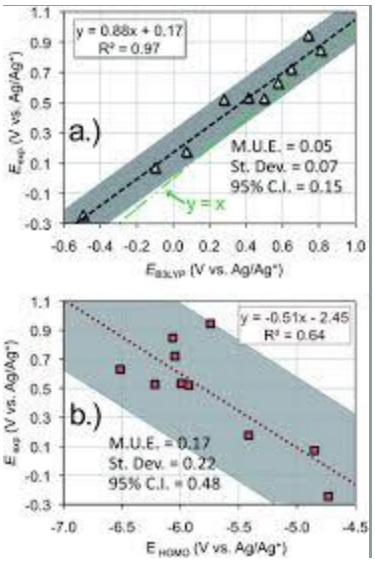


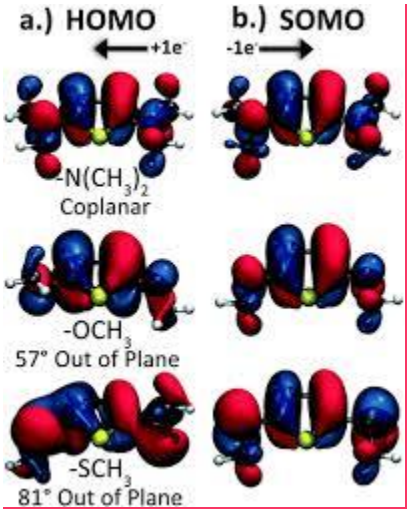


- Precession arises due to the interaction of spin and the gravitational force acting downwards. This is the reason why only a spinning top will precess; where as a static top will topple over.
- Since the proton is a spinning magnet, it will precess around the axis of an applied external magnetic field. It will precess in two main orientations.
- Aligned or parallel with the field-low energy.
- Opposed or anti parallel to the field-high energy.

openstax COLLEGE







❖ The standard reference substance used universally is **TETRAMETHYLSILANE (TMS)**, the standard reference is also known as **Internal Standard.**

$$\text{Chemical Shift, ppm } \delta = \frac{\text{Shift from TMS in Hz}}{\text{Spectrometer frequency (MHz)}} \times 10^6$$

Eg: for CH_2Br protons, chemical shift from TMS = 162Hz in a 60 MHz instrument and 270Hz in a 100 MHz instrument. Calculate δ value.

$$\delta = 162\text{Hz} / 60\text{ MHz} = 270 / 100 = 2.7\text{ppm}$$

Hence, δ Value remains same irrespective of the spectrometer.

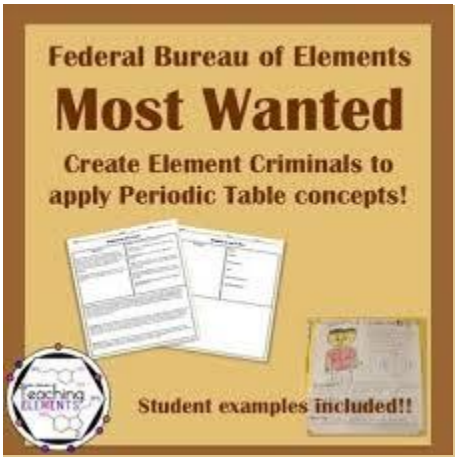


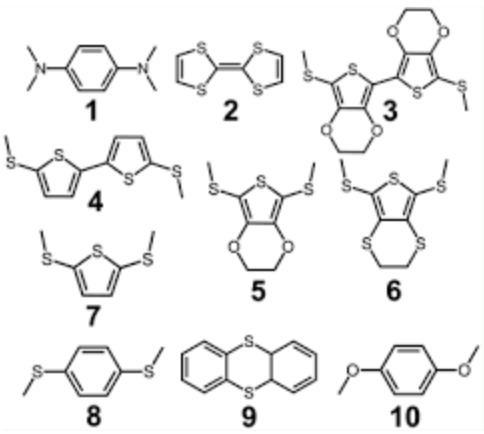
REFERENCE STANDARDS

CHARACTERISTICS:-

- ✓ Chemical inertness
- ✓ Magnetically neutral
- ✓ Gives single sharp peak
- ✓ Easily recognizable peak
- ✓ Miscible with wide range of solvents
- ✓ Volatility –to facilitate recovery from valuable samples

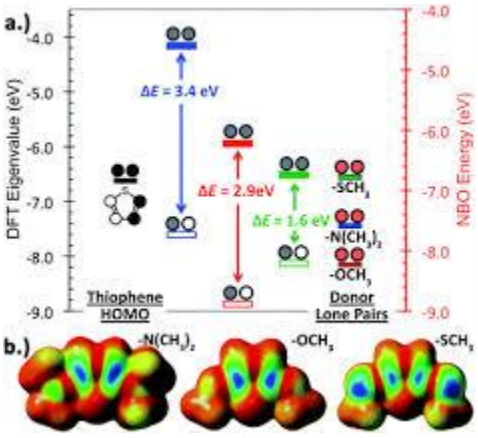
$$\frac{P_{ev}}{V_{ICP}} = n_e\left(\sum_{j,i}\varepsilon_{j,(+,i)}k_{j,(+,i)}n_j + \sum_{j,l}\varepsilon_{jl}k_{jl}n_j + \sum_j \frac{3m_e}{M_j}T_e k_{j,el}n_j\right),$$

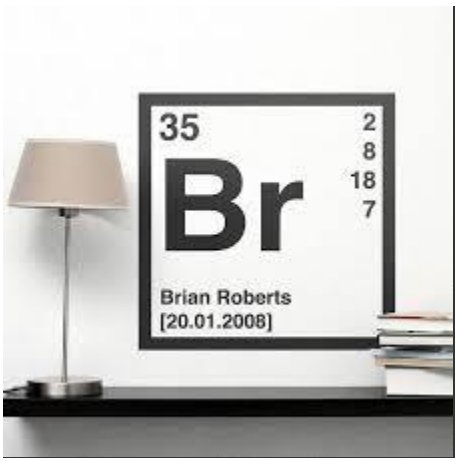


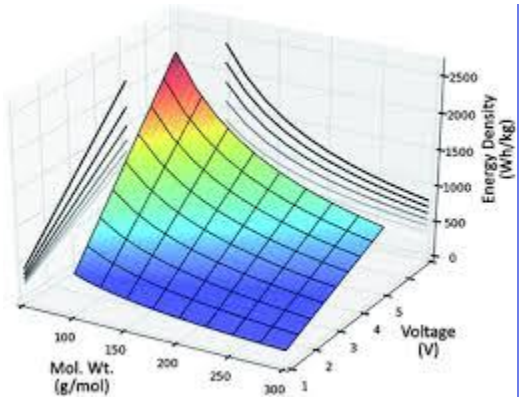




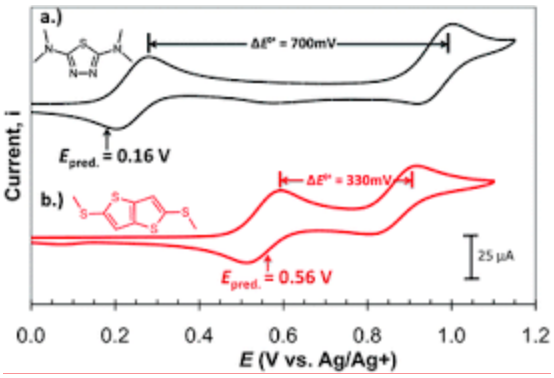






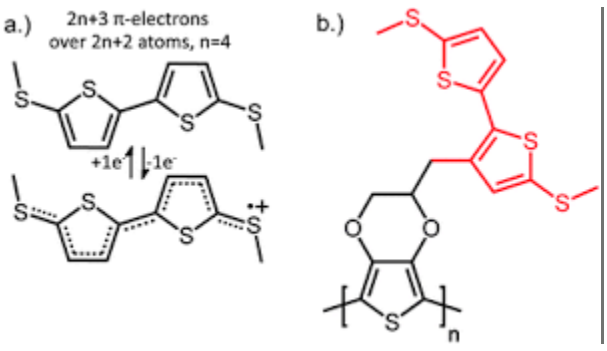






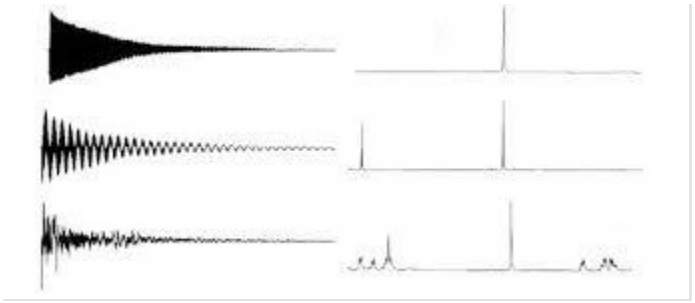
HYDROGEN BONDING :-

- Hydrogen atom exhibit property of hydrogen bonding in a compound which absorbs at a low field in comparison to the one which does not shows hydrogen bonding.
- Hydrogen bonded proton being attached to a highly electronegative atom will have smaller electron density around it. → less shielded → resonance will occurs downfield and downfield shift depends up on the strength of hydrogen bonding.
- Intramolecular and Intermolecular hydrogen bonding can be easily distinguished as the latter does not show any shift in absorption due to change in concentration.









418 × 314 - warp-drive-physics.com

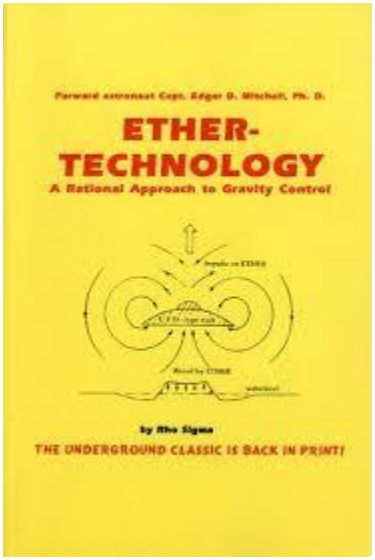
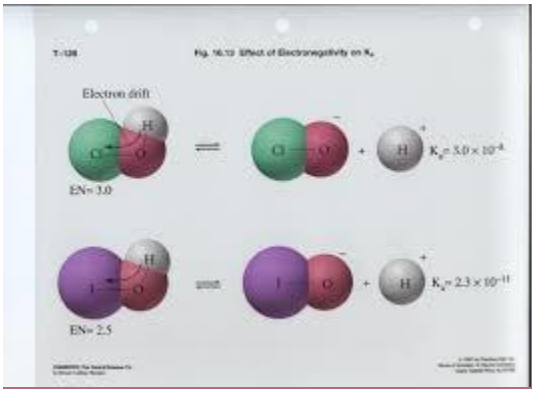
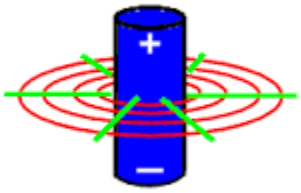
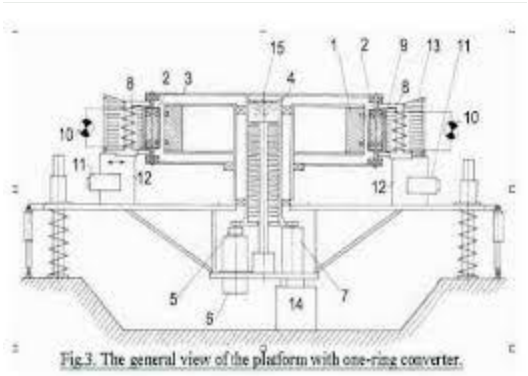


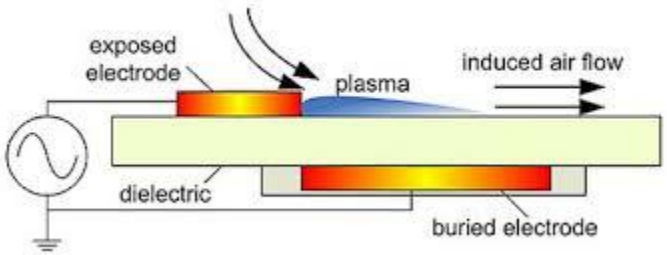
Table 2

Example No.	Inorg. Compound (30 vol.%)	Difference in Electronegativity	Presence of Epitaxial Bond
2	Si_3N_4	1.2	Yes
3	SiO_2	1.7	Yes
4	TiC	1.0	Yes
5	TiN	1.5	Yes
6	AlN	1.5	Yes

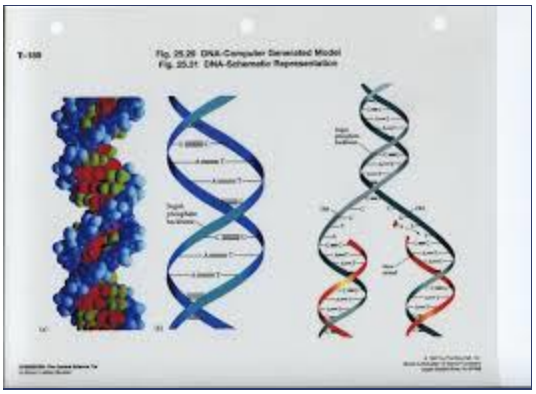




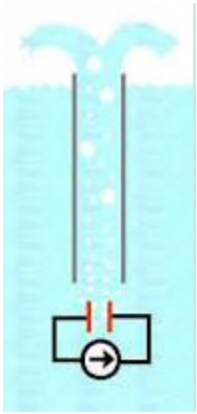


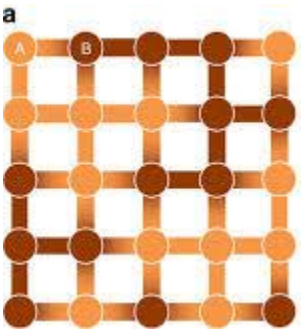


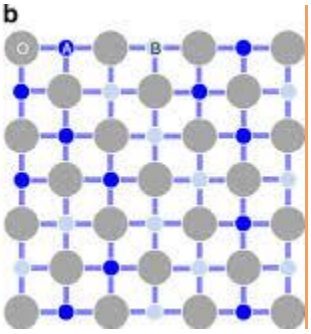

SOMEWHERE
OUT THERE
2/6
Science
Fiction

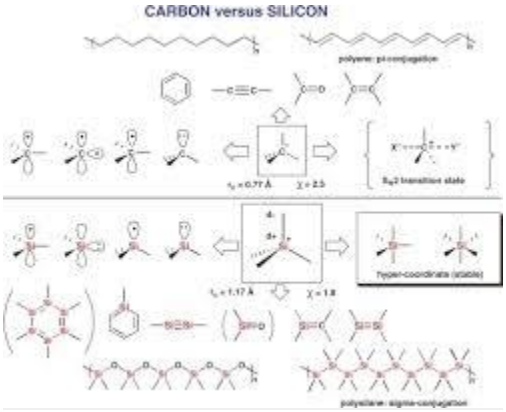

Fig. 25.26 DNA-Computer Simulated Model
Fig. 25.31 DNA-Schematic Representation



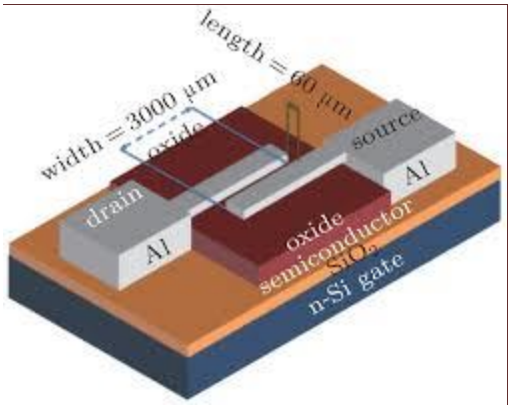


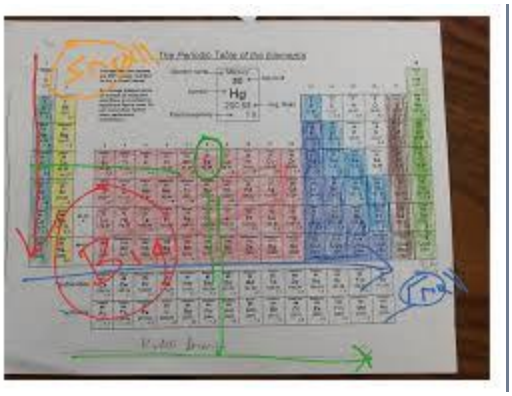

a
A
B

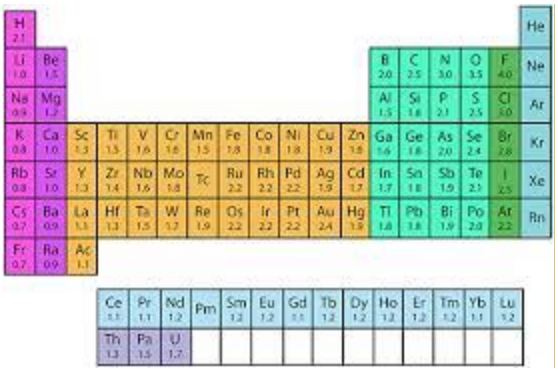

b
O
A
B

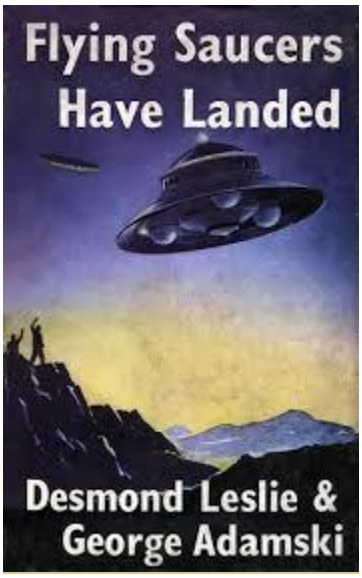

CARBON versus SILICON
polyene: pi-conjugation
Hypercoordinate (stable)
polysilane: sigma-conjugation

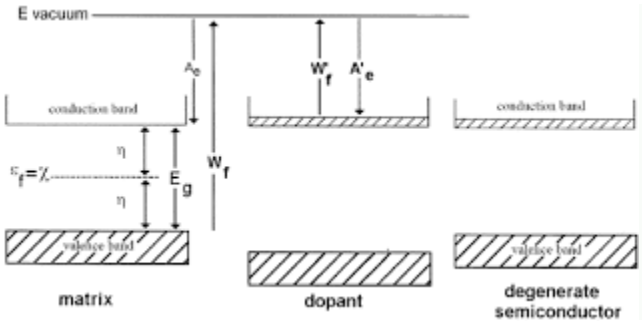

Revised 2nd Edition

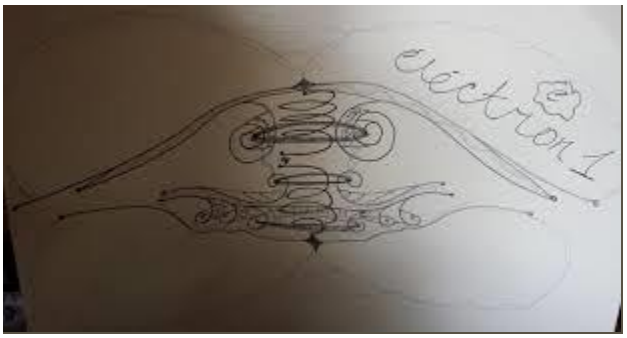

length = 60 μm
width = 3000 μm
oxide
source
Al
drain
Al
oxide
semiconductor
SiO2
n-Si gate

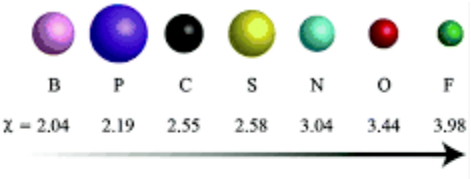


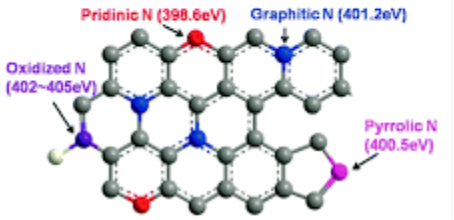


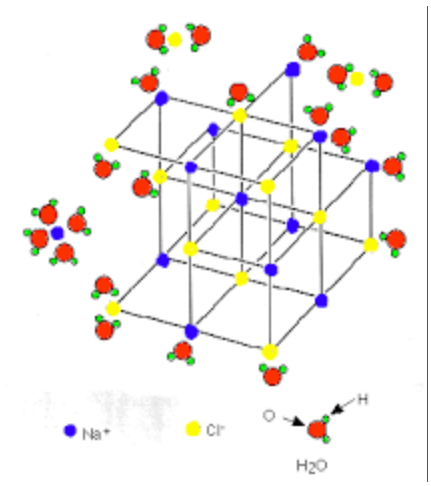

Flying Saucers
Have Landed
Desmond Leslie &
George Adamski

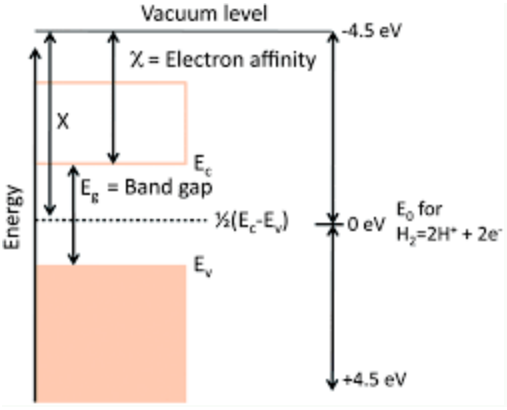

E vacuum
A_e
conduction band
$\chi_f=\chi$
η
η
E_g
W_f
valence band
matrix
W'_f
A'_e
conduction band
dopant
conduction band
valence band
degenerate
semiconductor

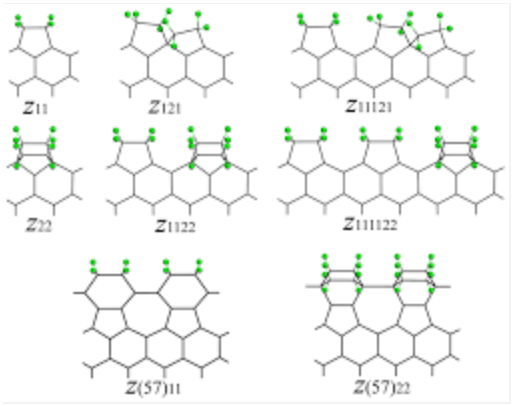

electron

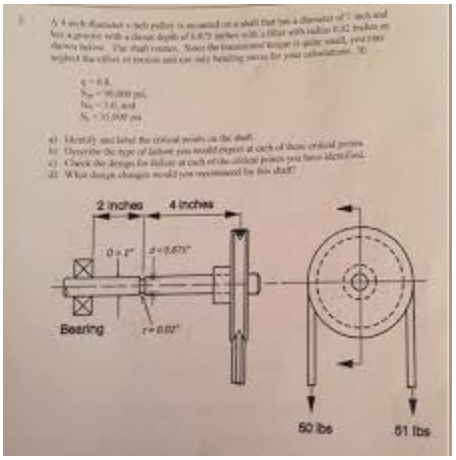

B P C S N O F
χ = 2.04 2.19 2.55 2.58 3.04 3.44 3.98

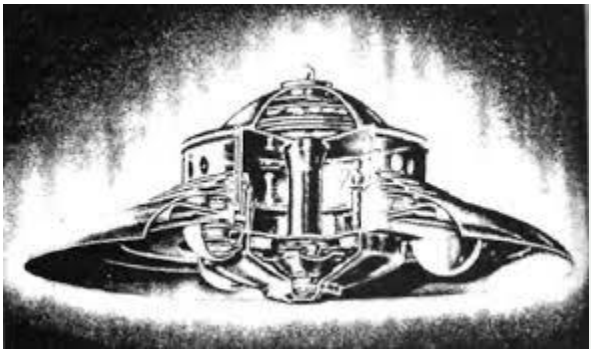

Pridinic N (398.6eV)
Graphitic N (401.2eV)
Oxidized N
(402~405eV)
Pyrrolic N
(400.5eV)

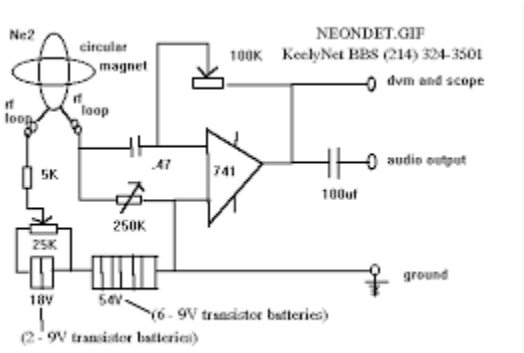

Na+
Cl-
O
H
H2O

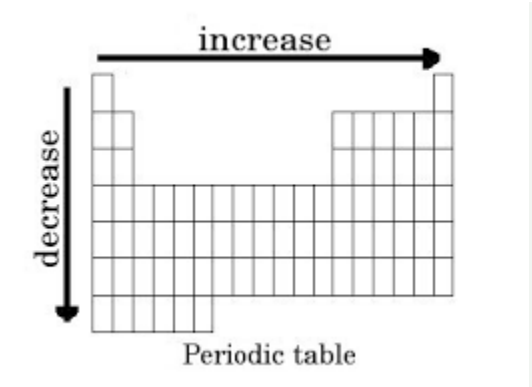

Vacuum level
-4.5 eV
χ = Electron affinity
X
E_c
E_g = Band gap
½(E_c-E_v)
0 eV
E_0 for
H_2=2H+ + 2e-
E_v
Energy
+4.5 eV

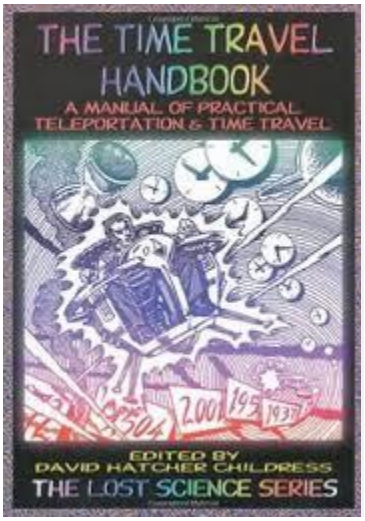

Z11
Z121
Z11121
Z22
Z1122
Z111122
Z(57)11
Z(57)22

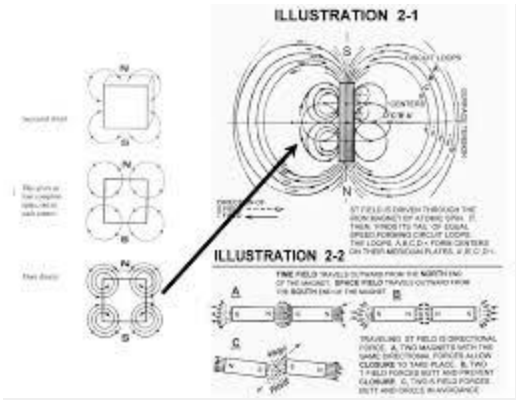

2 inches
4 inches
Bearing
50 lbs
51 lbs

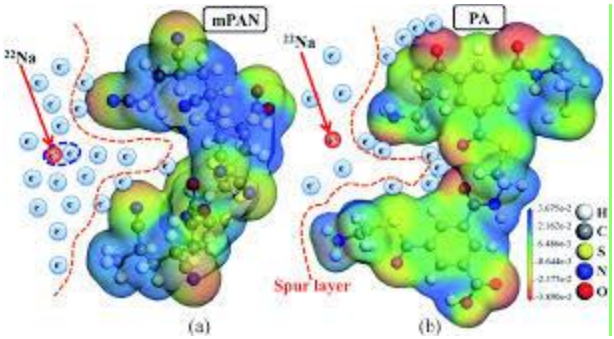



NEONDET.GIF
KeelyNet BBS (214) 324-3501
Ne2
circular magnet
rf loop
rf loop
100K
dvm and scope
.47
741
audio output
100uf
5K
250K
25K
18V
54V
ground
(6 - 9V transistor batteries)
(2 - 9V transistor batteries)

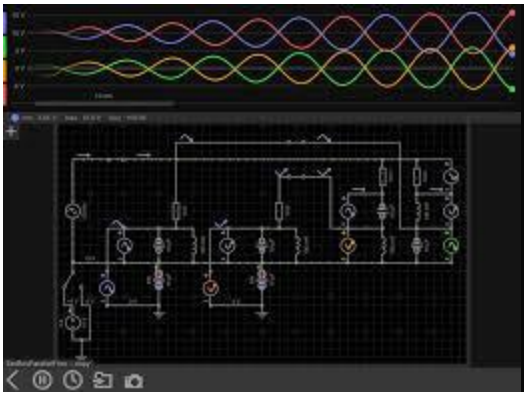

increase
decrease
Periodic table

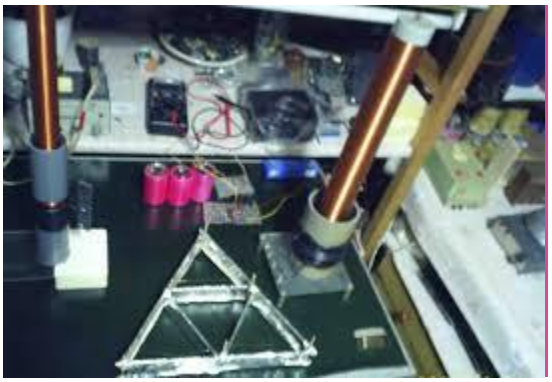

THE TIME TRAVEL HANDBOOK
A MANUAL OF PRACTICAL TELEPORTATION & TIME TRAVEL
EDITED BY
DAVID HATCHER CHILDRESS
THE LOST SCIENCE SERIES

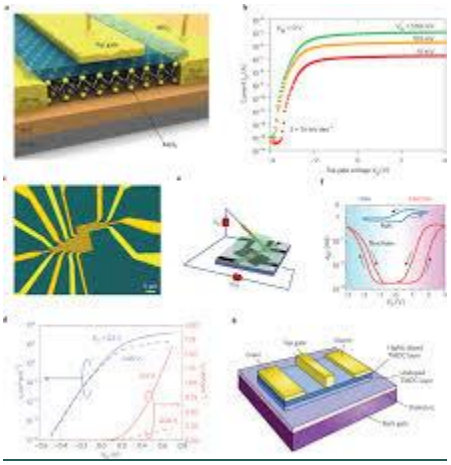

ILLUSTRATION 2-1
ILLUSTRATION 2-2

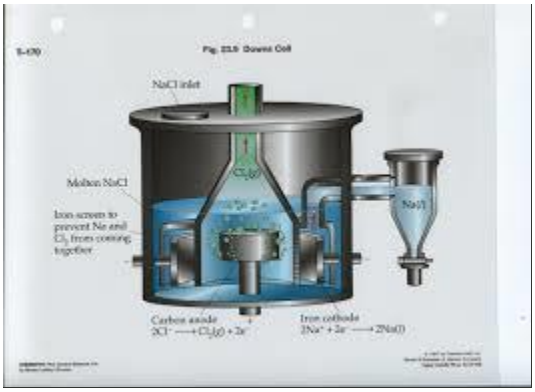

mPAN
PA
22Na
22Na
Spur layer
(a)
(b)
H
C
S
N
O

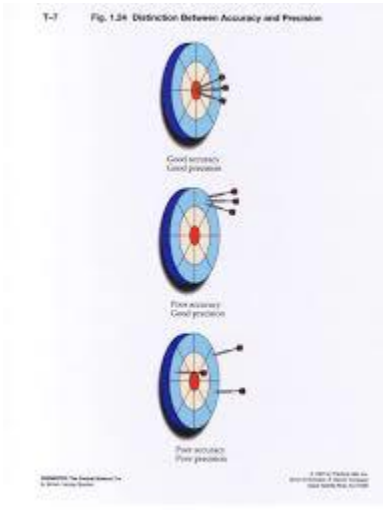

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NIKOLA TESLA

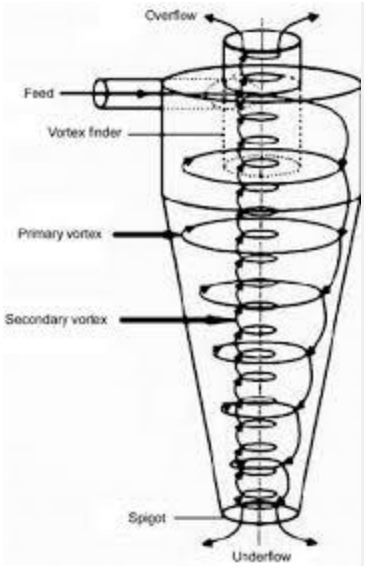


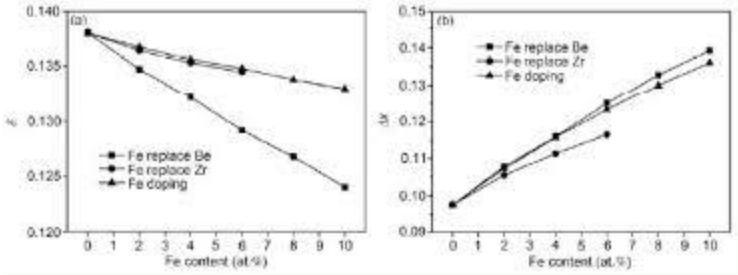


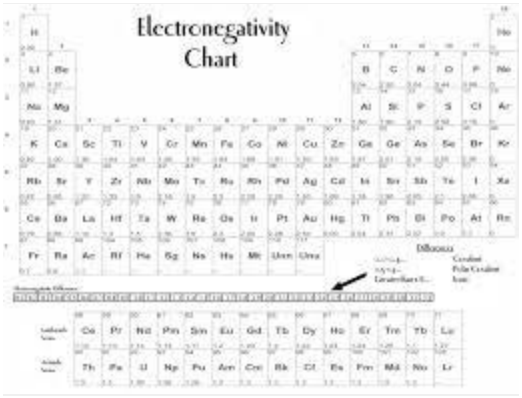


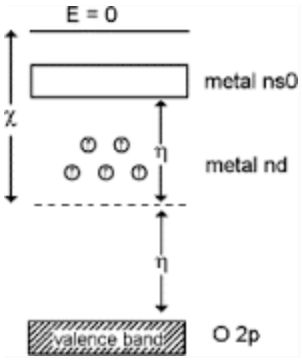

Fig. 23.9 Downs Cell
NaCl inlet
Molten NaCl
Iron screen to prevent Na and Cl_2 from coming together
Carbon anode
$2Cl^- \longrightarrow Cl_2(g) + 2e^-$
Iron cathode
$2Na^+ + 2e^- \longrightarrow 2Na(l)$

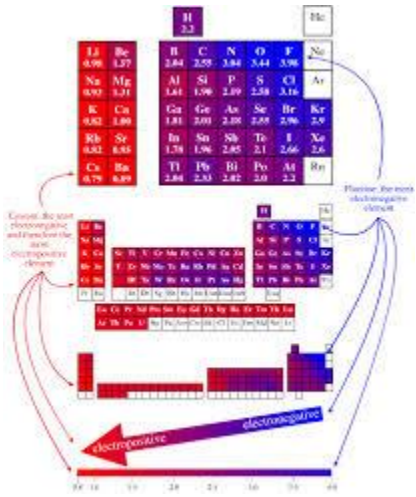

T-7
Fig. 1.24 Distinction Between Accuracy and Precision
Good accuracy
Good precision
Poor accuracy
Good precision
Poor accuracy
Poor precision

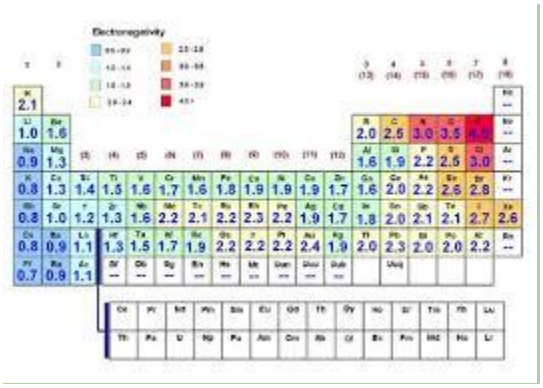

Overflow
Feed
Vortex finder
Primary vortex
Secondary vortex
Spigot
Underflow

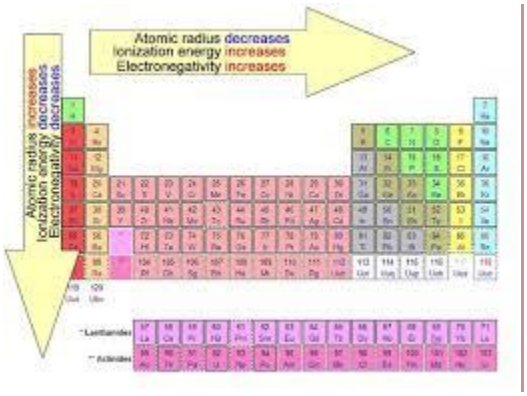

(a)
Fe replace Be
Fe replace Zr
Fe doping
Fe content (at.%)
(b)
Fe replace Be
Fe replace Zr
Fe doping
Fe content (at.%)

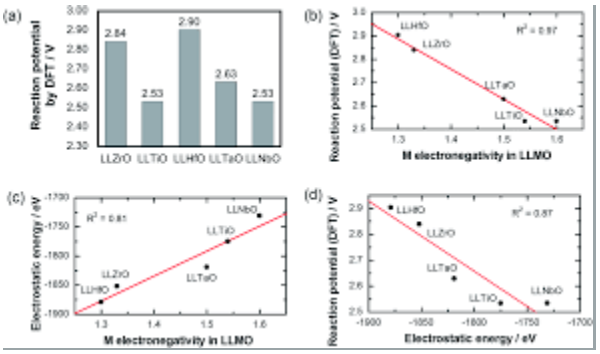


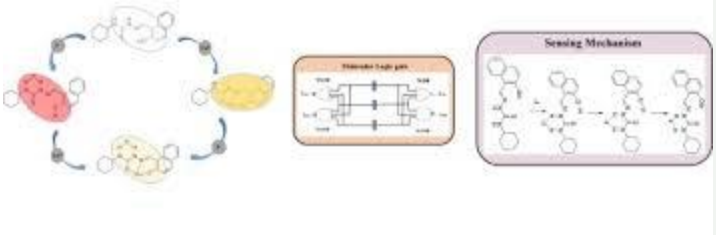


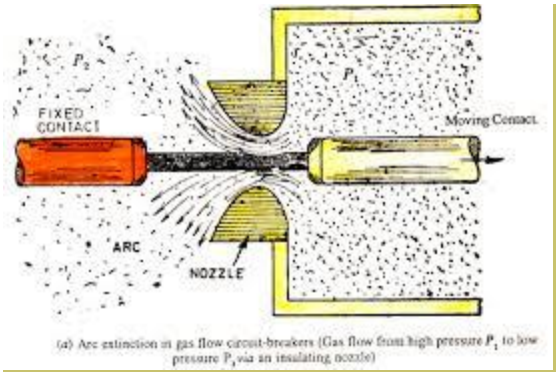




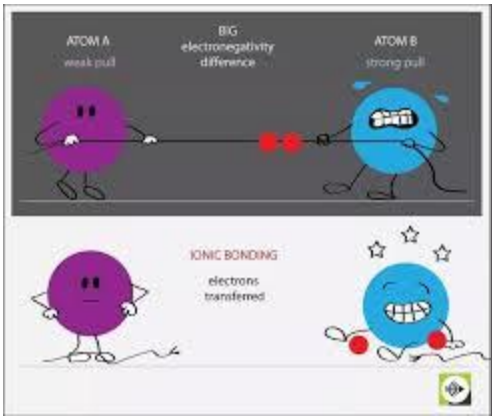


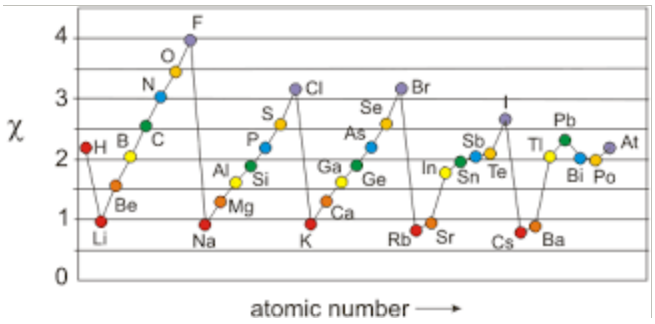


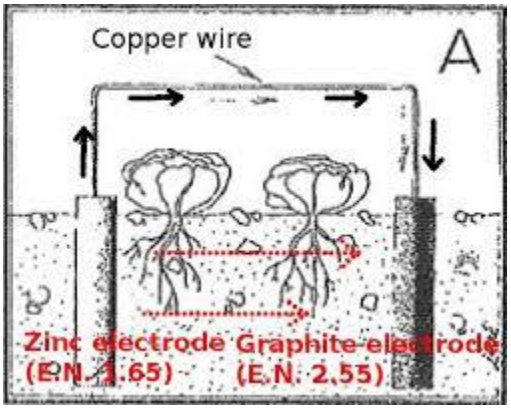


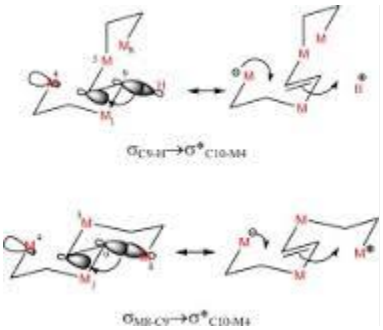


(a) Arc extinction in gas flow circuit-breakers (Gas flow from high pressure P_1 to low pressure P_2 via an insulating nozzle)

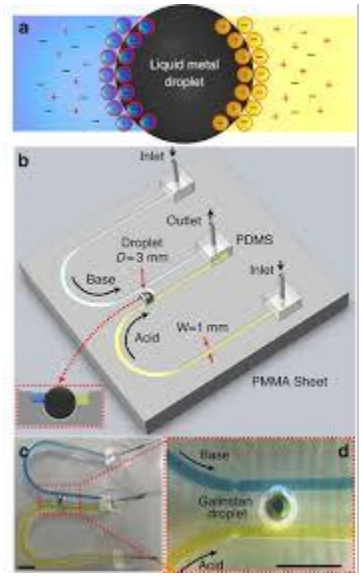

ATOM A
weak pull
BIG
electronegativity
difference
ATOM B
strong pull
IONIC BONDING
electrons
transferred

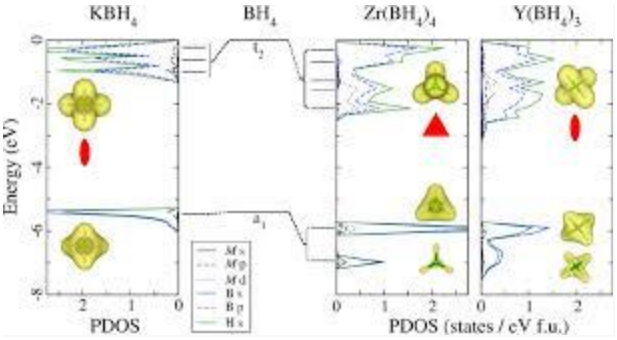

χ
atomic number
H
Li
Be
B
C
N
O
F
Na
Mg
Al
Si
P
S
Cl
K
Ca
Ga
Ge
As
Se
Br
Rb
Sr
In
Sn
Sb
Te
I
Cs
Ba
Tl
Pb
Bi
Po
At

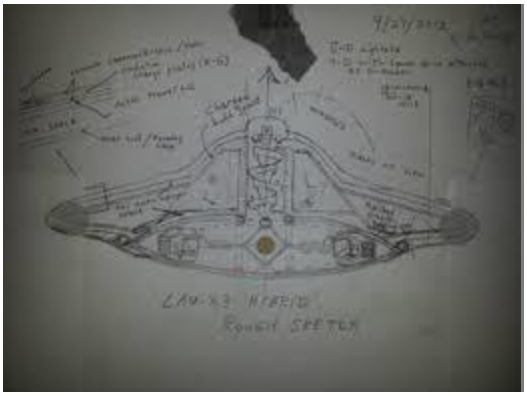

Copper wire
A
Zinc electrode
(E.N. 1.65)
Graphite electrode
(E.N. 2.55)

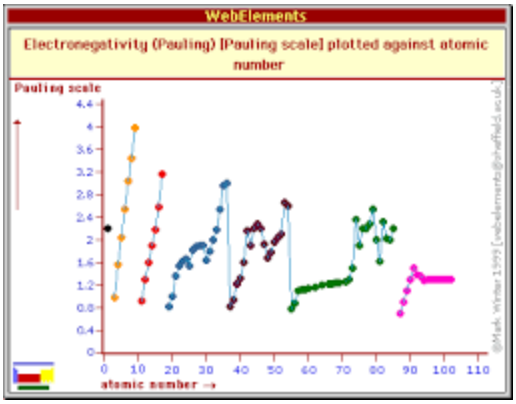


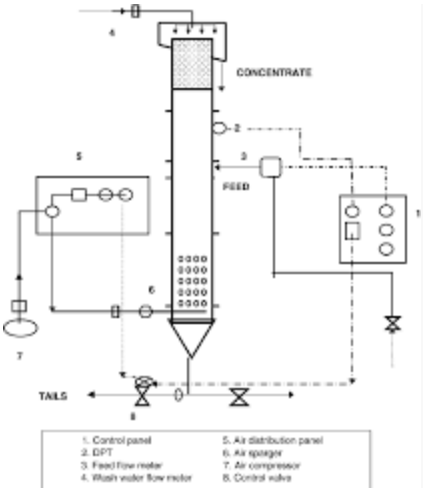


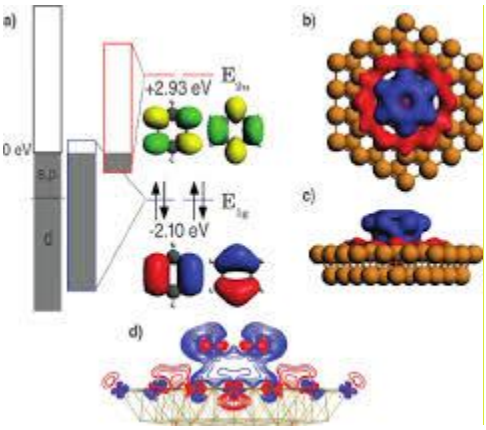

a
Liquid metal
droplet
b
Inlet
Outlet
PDMS
Droplet
D=3 mm
Base
Inlet
Acid
W=1 mm
PMMA Sheet
c
Base
d
Galinstan
droplet
Acid

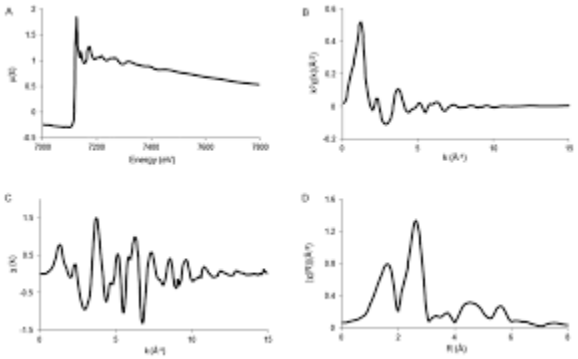

KBH4
BH4
Zr(BH4)4
Y(BH4)3
Energy (eV)
PDOS
PDOS (states / eV f.u.)



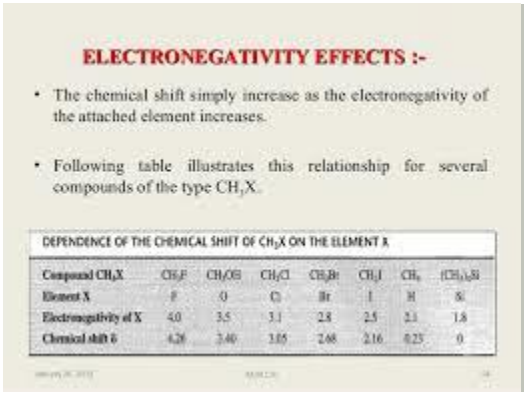


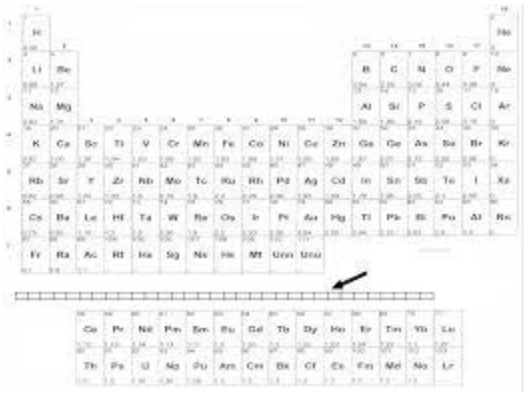


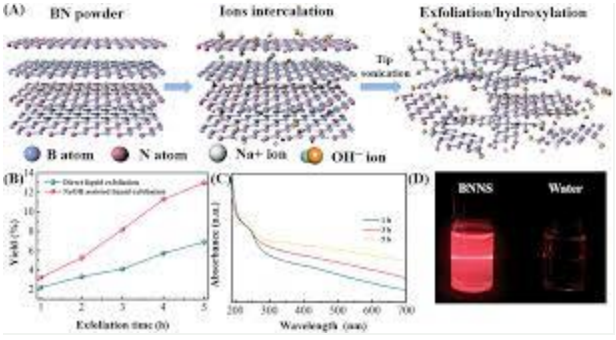




$$\chi_\alpha = \chi_\alpha^* + 2\eta_\alpha^* q_\alpha + k\sum_{\beta\neq\alpha}^{N} \frac{q_\beta}{R_{\alpha\beta}}$$



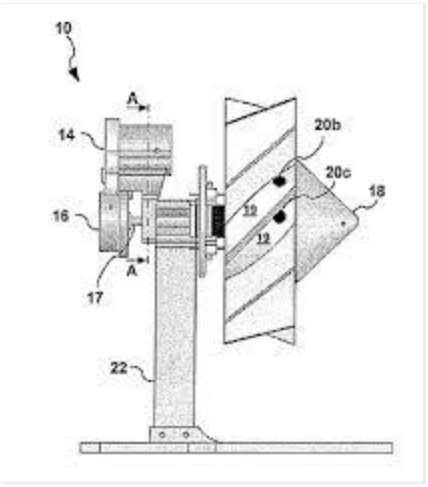


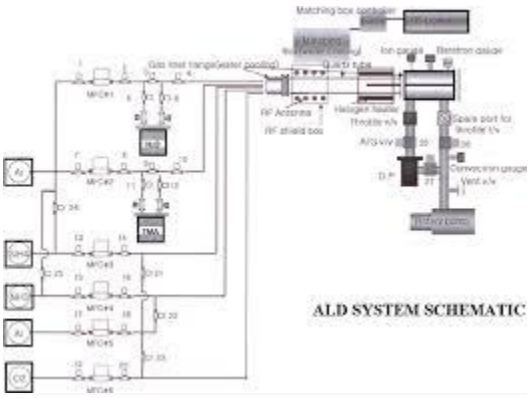


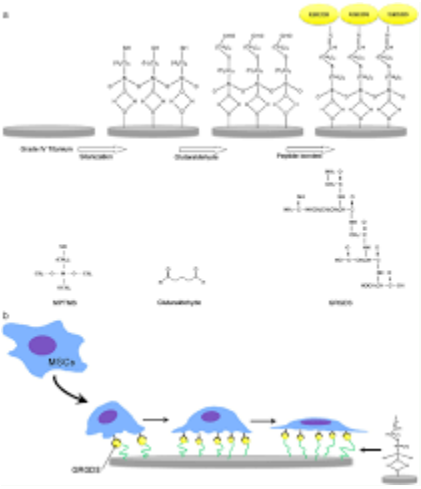


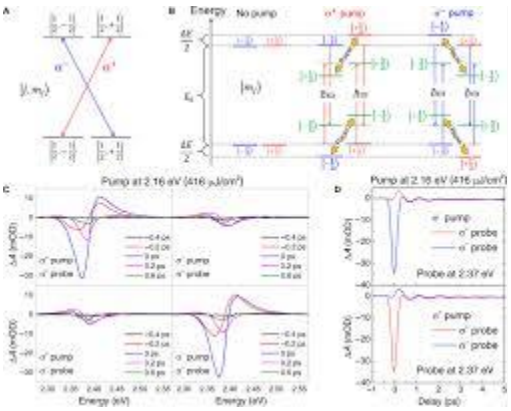
Prime ★★★☆☆ (19 Reviews)

1 day ago









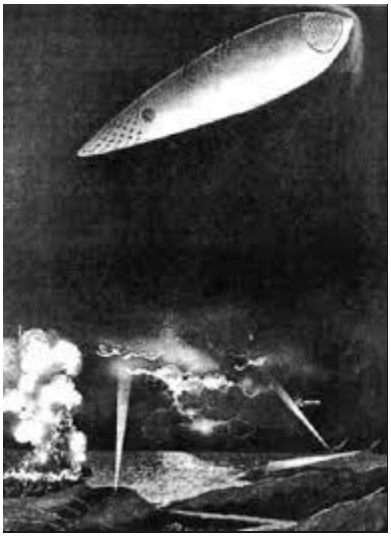


Table 2 (cont.)

Example No.	Inorg. Compound (30 vol.%)	Difference in Electronegativity	Presence of Epitaxial Bond
7	ZrN	1.6	Yes
8	ZrC	1.1	Yes
9	Cr_3C_2	0.9	Yes
10	Cr_2N	1.4	Yes
11	BeO	1.5	Yes
12	WC	0.8	Yes
13	MN	1.3	Yes
14	VN	1.4	Yes
15	VC	0.9	Yes
16	Fe_3C	0.7	Yes
17	Mo_2N	1.2	Yes
18	Mo_2C	0.7	Yes
19	TiC	1.2	Yes
20	HfN	1.3	Yes
21	HfC	1.2	Yes
22	TaN	1.5	Yes
23	TaC	1.0	Yes
24	NbN	1.4	Yes
25	MN	1.3	Yes
26	Al_2O_3	2.0	No
27	TiO_2	2.0	No
28	ZrO_2	2.1	No
29	MgO	2.3	No

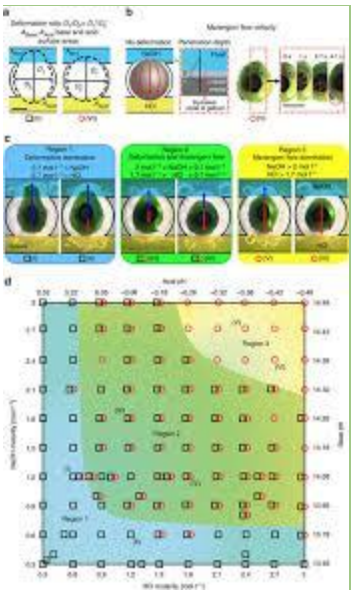
Ancient CODE
...en Español.

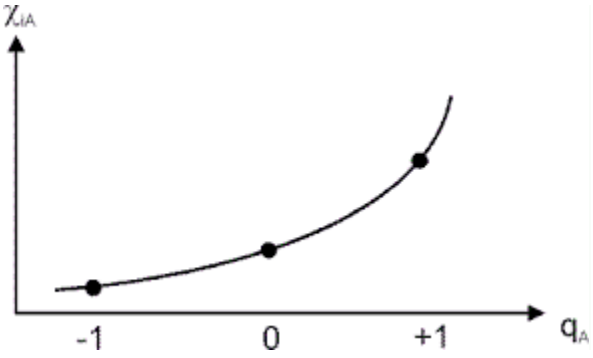
The equation Wikipedia gives for using the Mulliken concept in calculating electronegativities in Pauling units is the following, when using eV as the unit for Mulliken electronegativities rather than kJ mol^{-1}:

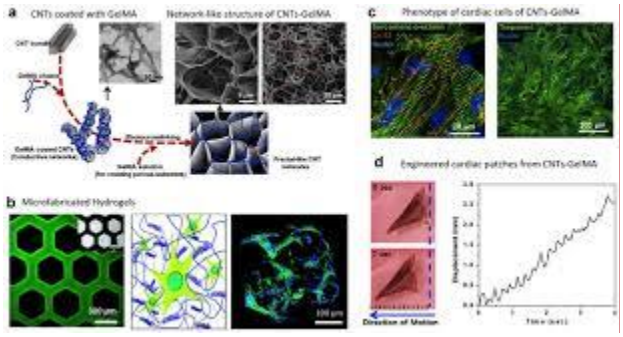
$\chi = 0.187(IE_1 + EA) + 0.17$

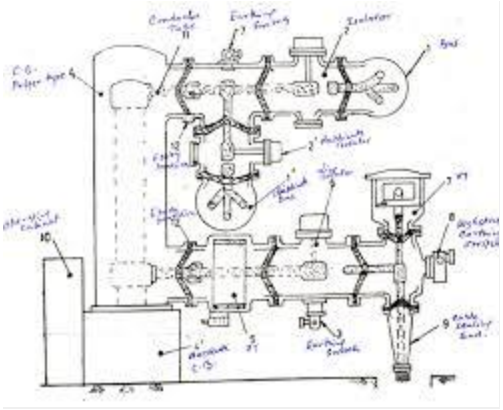
(though Wikipedia uses E_i for the first ionization energy and E_{ea} for the electron affinity).

Use the tables in Appendix B of the book (or some other reliable source) to find IE_1 and EA values for the elements in the next few problems. Make sure the values for EA are defined as the energy for $A^- \longrightarrow A + e^-$, and not the other way around! (The values in the book are so defined.)

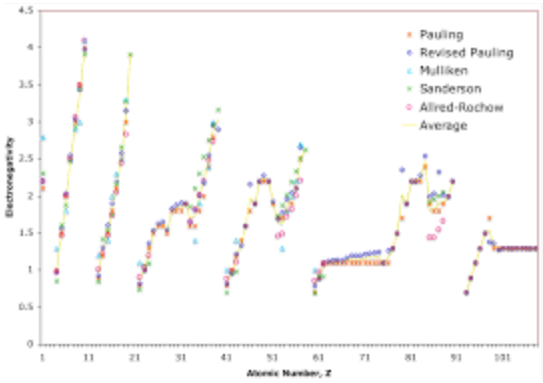


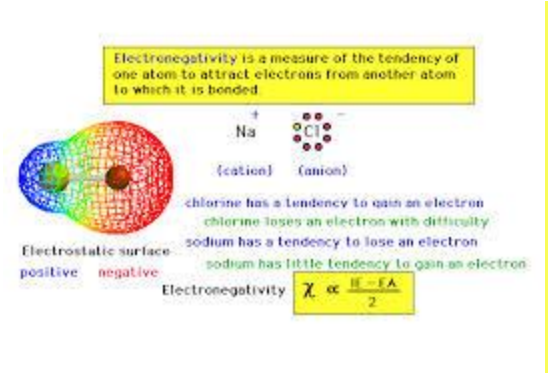


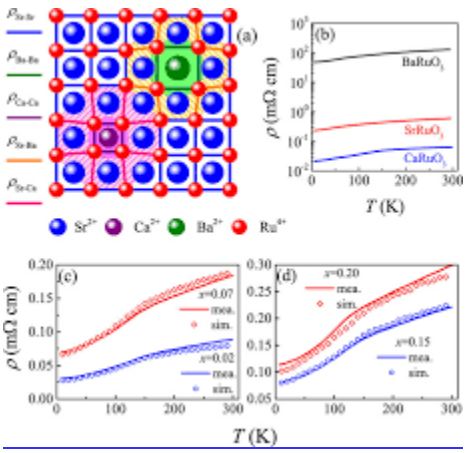


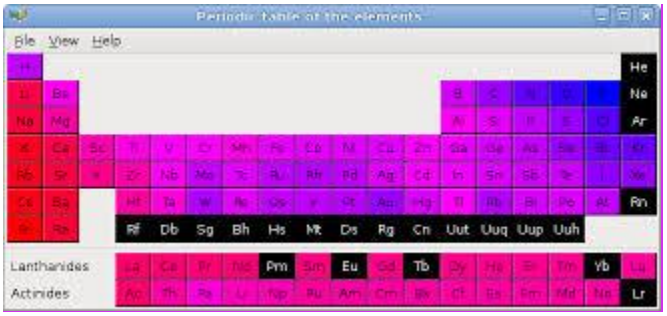


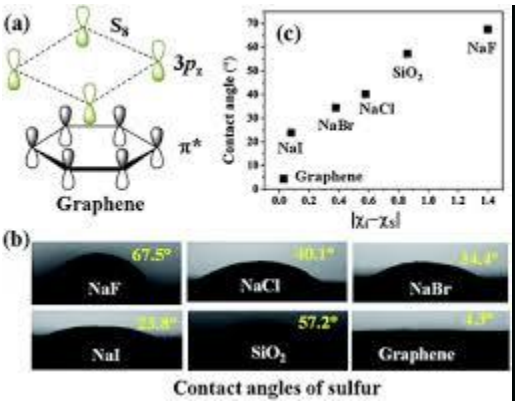


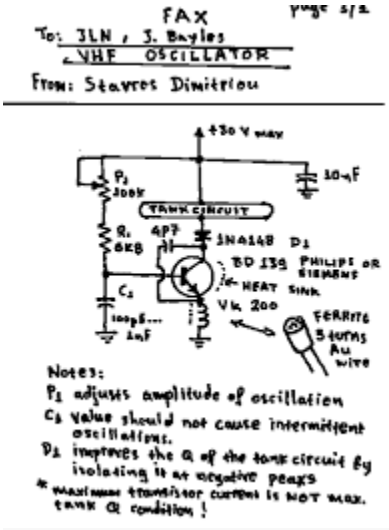

Pauling
Revised Pauling
Mulliken
Sanderson
Allred-Rochow
Average
Electronegativity
Atomic Number, Z

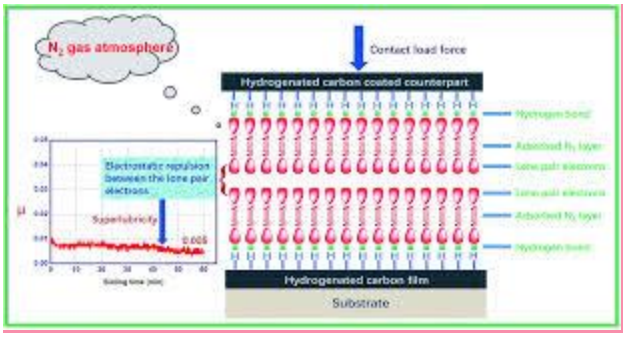

Electronegativity is a measure of the tendency of one atom to attract electrons from another atom to which it is bonded
Na
Cl
(cation)
(anion)
chlorine has a tendency to gain an electron
chlorine loses an electron with difficulty
sodium has a tendency to lose an electron
sodium has little tendency to gain an electron
Electrostatic surface
positive
negative
Electronegativity

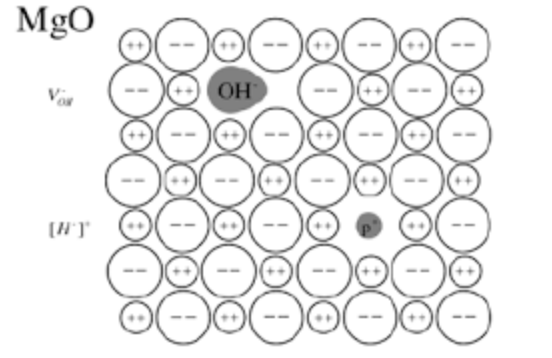

(a)
(b)
BaRuO3
SrRuO3
CaRuO3
ρ (mΩ cm)
T (K)
Sr2+
Ca2+
Ba2+
Ru4+
(c)
(d)
x=0.07
x=0.02
x=0.20
x=0.15
mea.
sim.

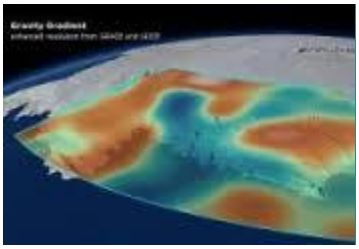

Periodic table of the elements
File View Help
Lanthanides
Actinides

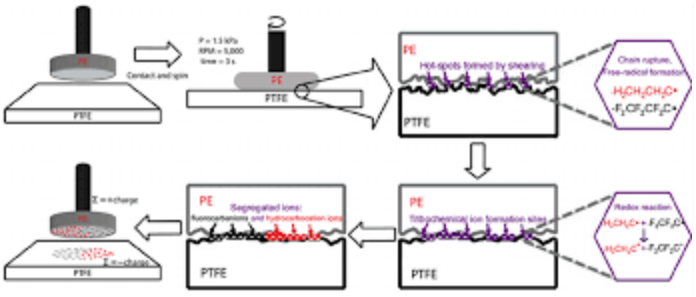

(a)
S8
3pz
π*
Graphene
(b)
(c)
Contact angle (°)
NaF
SiO2
NaCl
NaBr
NaI
Graphene
67.5°
40.1°
14.4°
23.8°
57.2°
4.8°
Contact angles of sulfur

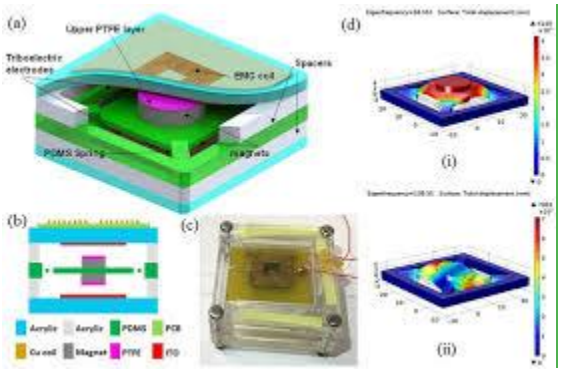

FAX
To: JLN / J. Bayles
VHF OSCILLATOR
From: Stavros Dimitriou
+30 V max
P1 200k
10nF
TANK CIRCUIT
R1 680
4P7
1N4148 D1
BD 139 PHILIPS OR SIEMENS
HEAT SINK
C2
Vk 200
FERRITE 5 turns Au wire
Notes:
P1 adjusts amplitude of oscillation
C2 value should not cause intermittent oscillations.
D1 improves the Q of the tank circuit by isolating it at negative peaks
* maximum transistor current is NOT max. tank Q condition !

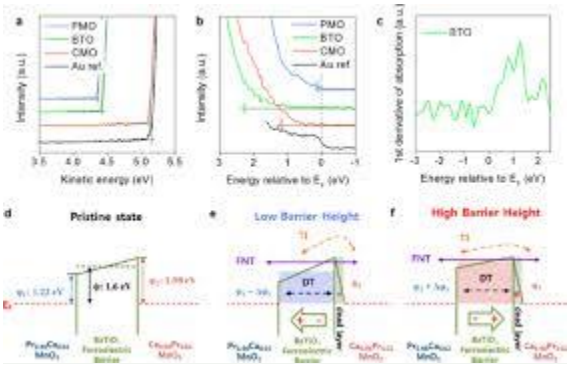

N2 gas atmosphere
Contact load force
Hydrogenated carbon coated counterpart
Electrostatic repulsion between the lone pair electrons
Superlubricity
Hydrogenated carbon film
Substrate


MgO
OH
H+

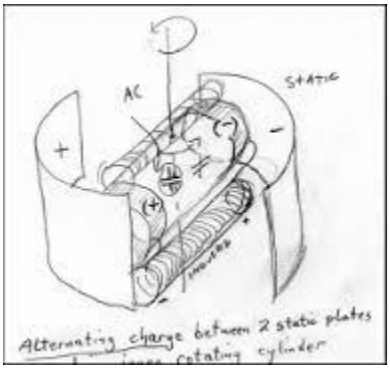

Gravity Gradient

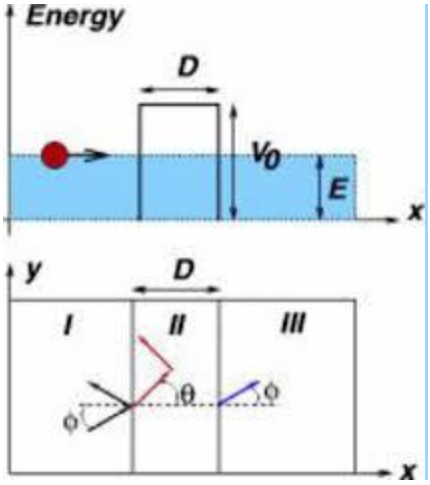

PTFE
PE
Contact and spin
Hot-spots formed by shearing
Chain rupture,
Free-radical formation
Segregated ions:
Nanomechanical ion formation sites
Redox reaction
PTFE

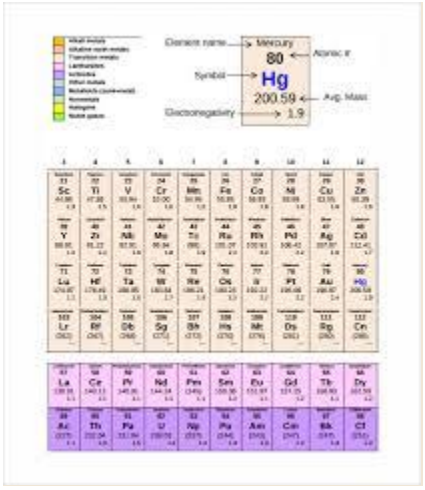

(a)
Upper PTFE layer
Triboelectric electrodes
Spacers
EMG coil
PDMS Spring
Magnets
(b)
(c)
(d)
(i)
(ii)
Acrylic
Acrylic
PDMS
PCB
Cu coil
Magnet
PTFE
ITO


a
PMO
BTO
CMO
Au ref
Intensity (a.u.)
Kinetic energy (eV)
b
PMO
BTO
CMO
Au ref
Intensity (a.u.)
Energy relative to E_F (eV)
c
BTO
1st derivative of absorption (a.u.)
Energy relative to E_F (eV)
d
Pristine state
e
Low Barrier Height
f
High Barrier Height
TNT
DT
Hole layer

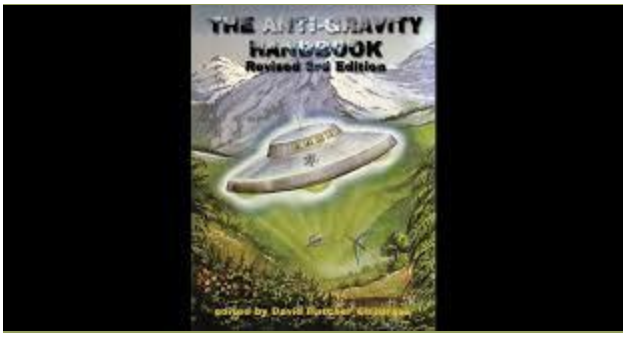


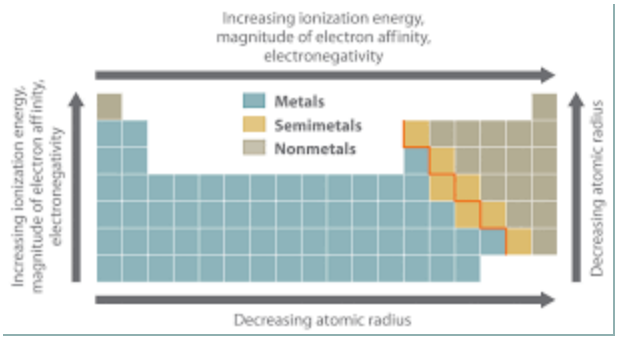

AC
STATIC
(+)
(-)
Alternating charge between 2 static plates
rotating cylinder

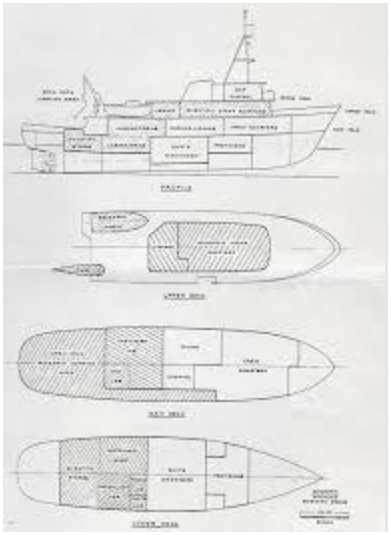

Energy
D
V0
E
x
y
D
I
II
III
θ
ϕ
x

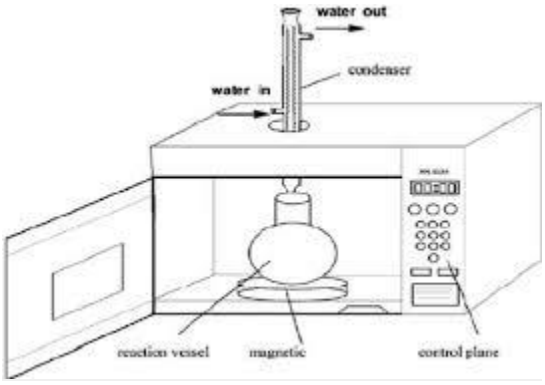

Element name
Mercury
80
Symbol
Hg
200.59
Avg. Mass
Electronegativity
1.9

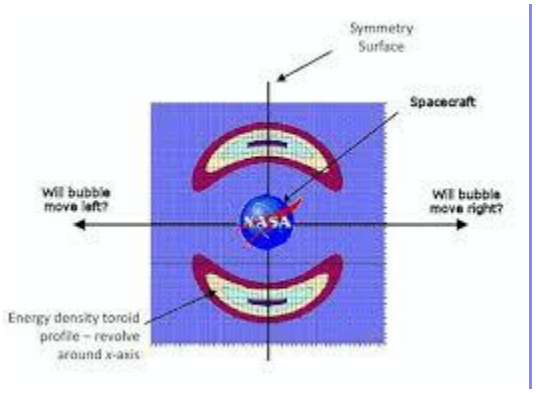

Gelation/
Hydrolysis
Non
supercritical
drying
RF
TOES
Carbon
SiO2
RF/TOES sol
RF-SiO2 aerogel
Carbonization
Silica removal
Burning carbon
Porous carbon aerogel
Carbon-silica aerogel
Porous silica aerogel

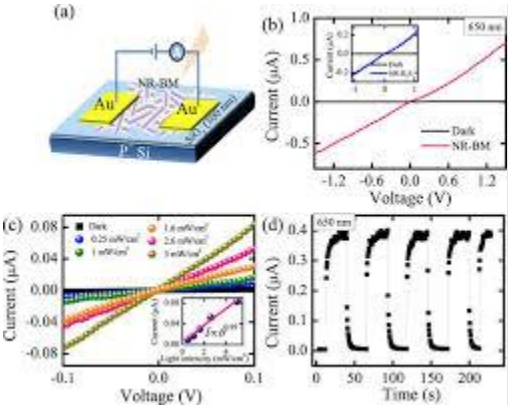

THE ANTI-GRAVITY
HANDBOOK
Revised 3rd Edition


Increasing ionization energy, magnitude of electron affinity, electronegativity
Metals
Semimetals
Nonmetals
Increasing ionization energy, magnitude of electron affinity, electronegativity
Decreasing atomic radius
Decreasing atomic radius

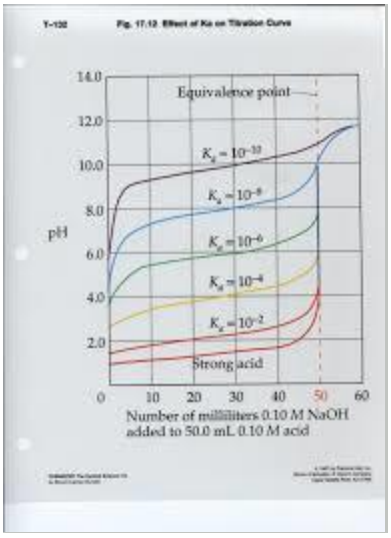


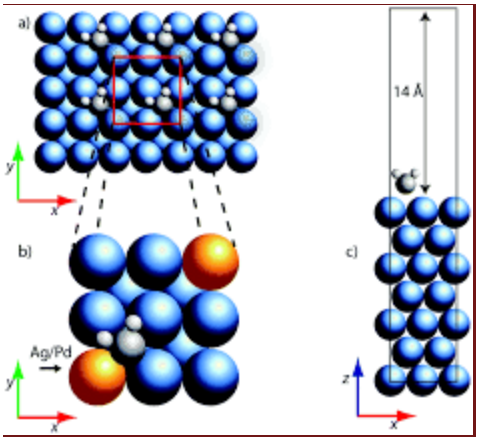

water out
condenser
water in
reaction vessel
magnetic
control plane

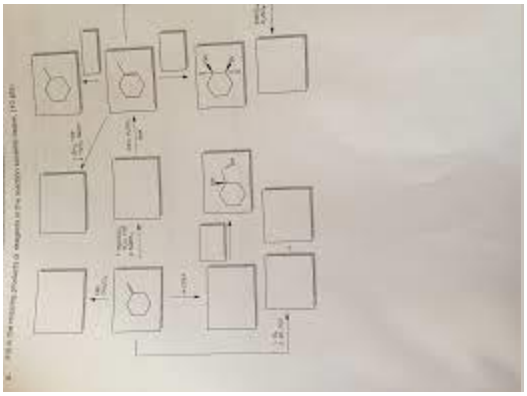

Symmetry Surface
Spacecraft
Will bubble move left?
Will bubble move right?
Energy density toroid profile – revolve around x-axis

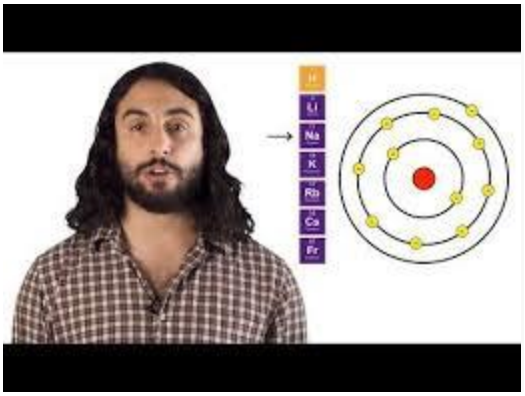

(a)
NR-BM
Au
Au
P-Si
(b)
650 nm
Current (μA)
Dark
NR-BM
Voltage (V)
(c)
Dark
Current (μA)
Voltage (V)
(d)
650 nm
Current (μA)
Time (s)

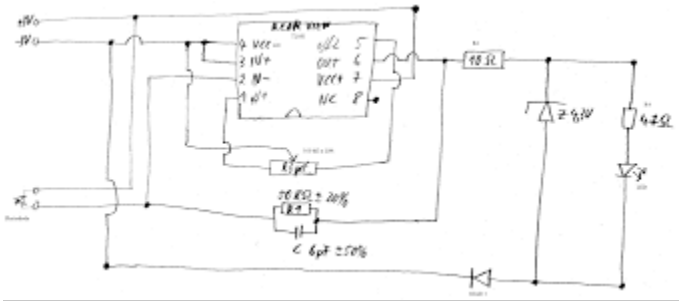


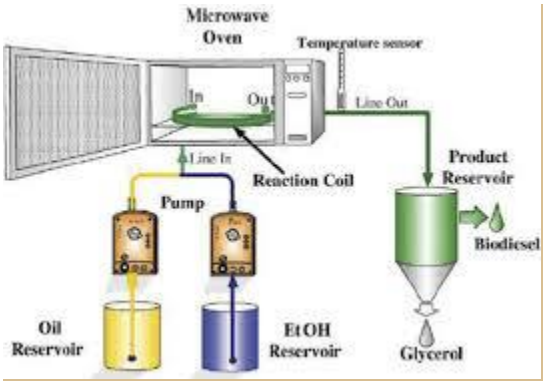

Equivalence point
pH
Strong acid
Number of milliliters 0.10 M NaOH added to 50.0 mL 0.10 M acid

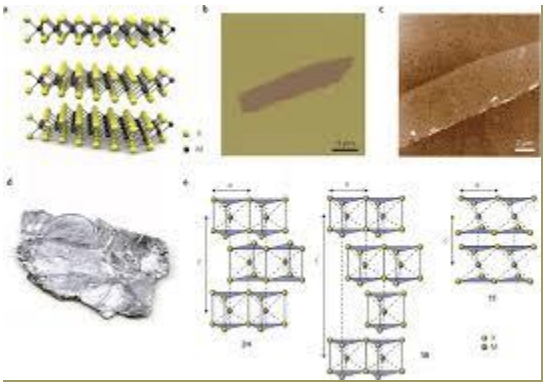

a)
14 Å
b)
Ag/Pd
c)

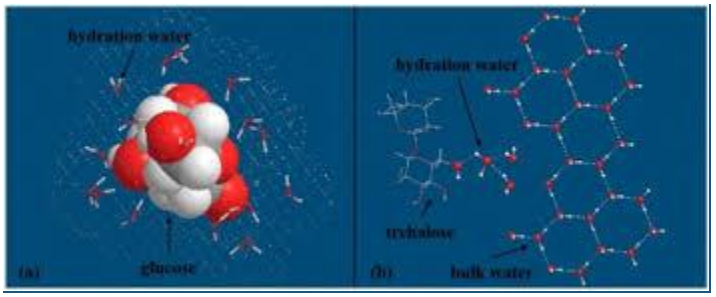






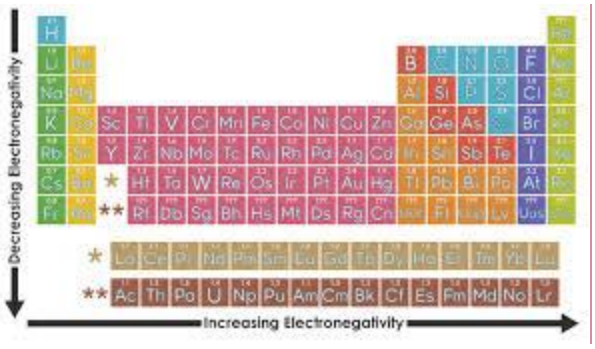






Chemical Shifts- Electronegativity Effects

Functional Group		Binding Energy (eV)
hydrocarbon	C-H, C-C	285.0
amine	C-N	286.0
alcohol, ether	C-O-H, C-O-C	286.5
Cl bound to C	C-Cl	286.5
F bound to C	C-F	287.8
carbonyl	C=O	288.0





The UFO Technology Hackers Manual

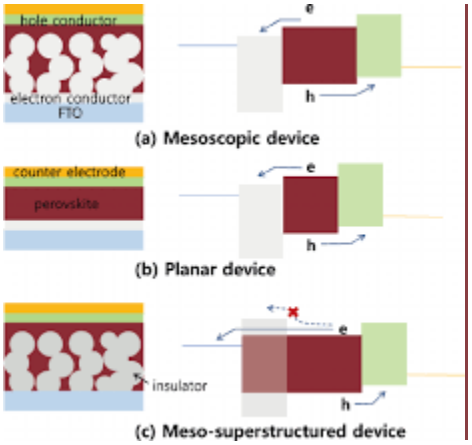
Preface

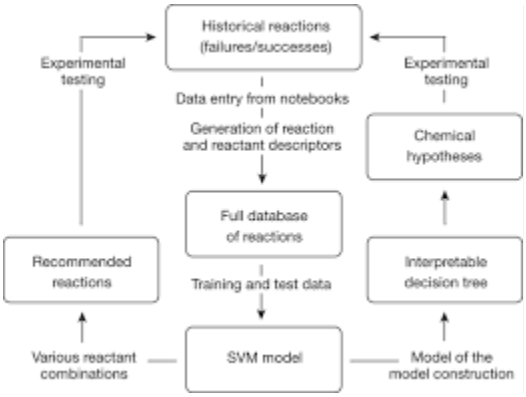
This book is not a rehash of information covered in other books. Most of the information discussed with in has never appeared in book form before this writing however, . If you have read.

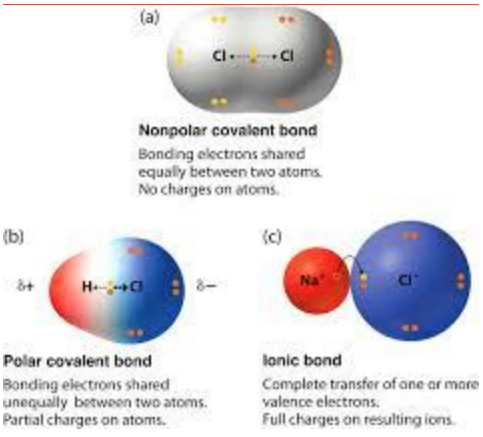
How To Build A Flying Saucer And Other Projects In Speculative Engineering by TR Pawlick, this book starts where that author ends his, at the Solid State UFO. I will bring you up to speed on the state of the art in spacecraft drive potential. All information is compiled from publicly available government archives.

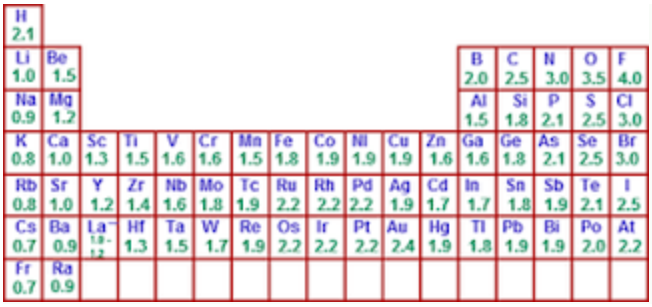
Within the unknown and the unexplained, lie the parameters for a new paradigm. As scientist, inventors, and hackers, we must go forth bravely into this new territory. If we were to turn away, to return to our comfortable ignorance we may never do what we all dream, to advance science, technology, and human discovery to the next level.

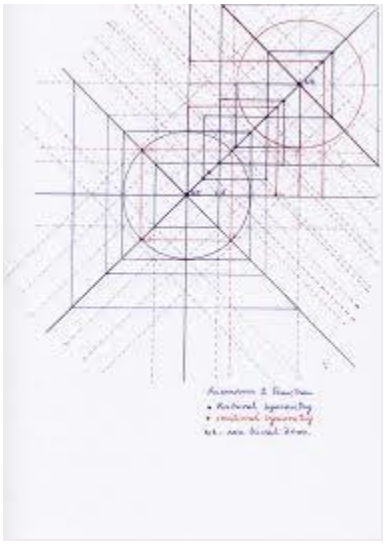
The reason for my writing this book is to bring, to the attention of the general public, information about space drive capabilities that human technology can accomplish that are way beyond what we are being told about in our schools, and our media outlets. These technologies must be known to the general public so that they will have the knowledge to "DEMAND ACCESS" to these capabilities. Soon, all mankind can go forth into Space and explore the New Frontier for ourselves. These freedoms are being denied us by reinforcing our ignorance and misleading us with refashined old technology that is too expensive, dangerous, and technically complicated to be used by common folks like you and I.

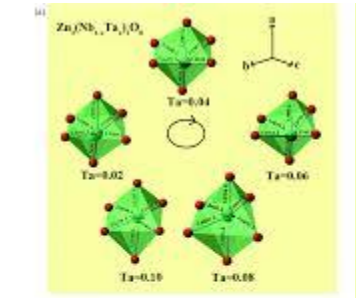


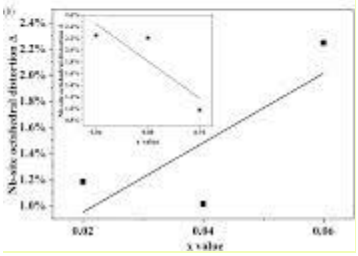




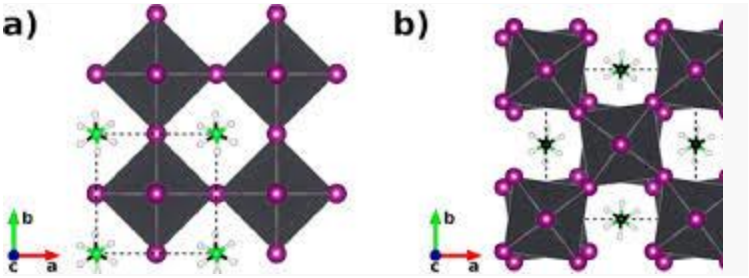


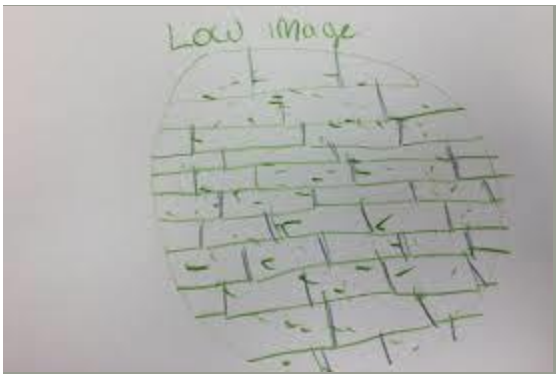


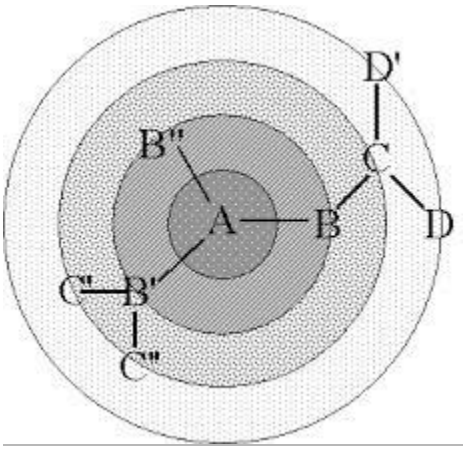


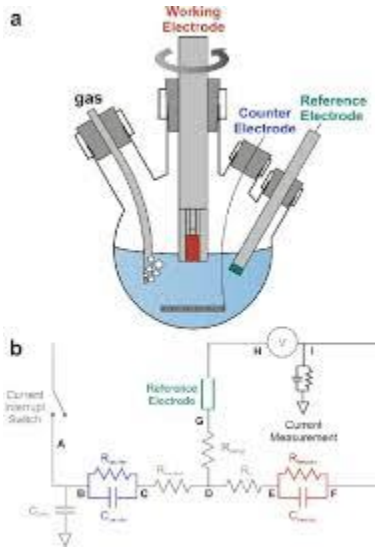


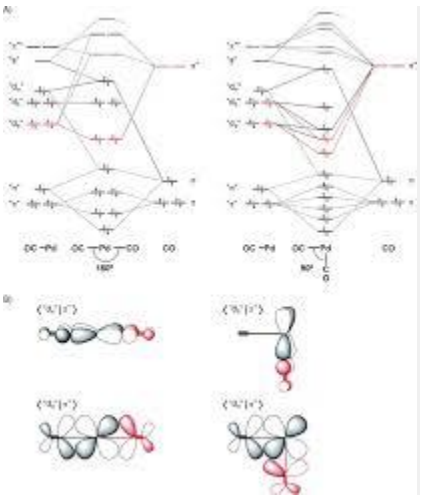


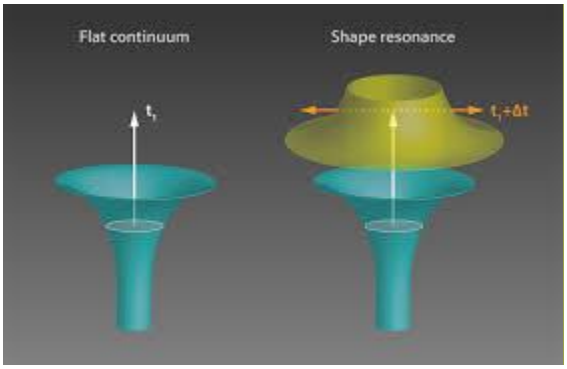

a)
b)
b
c
a
b
c
a

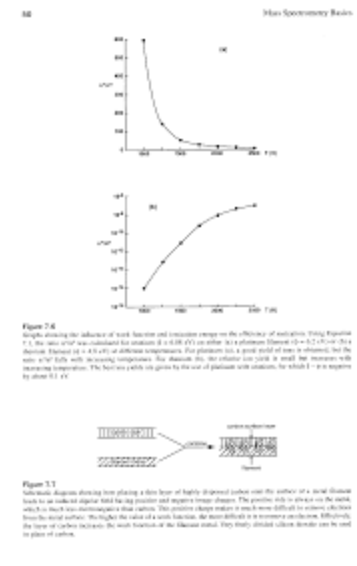

Low image

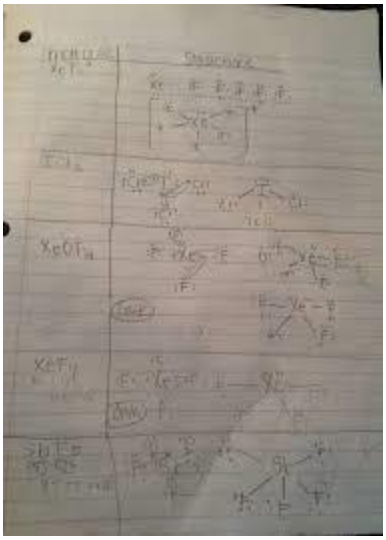

D'
B''
C
A
B
D
C''
B'
C'''

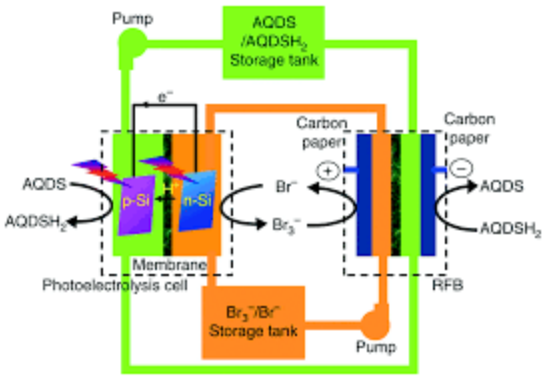

a
Working Electrode
gas
Counter Electrode
Reference Electrode
b
Current Interrupt Switch
Reference Electrode
Current Measurement



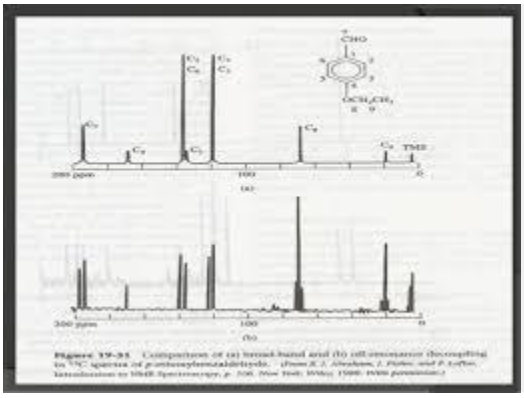

Flat continuum
Shape resonance
t_1
$t_1+\Delta t$



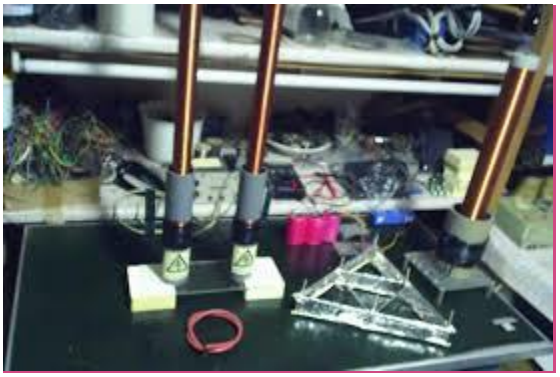


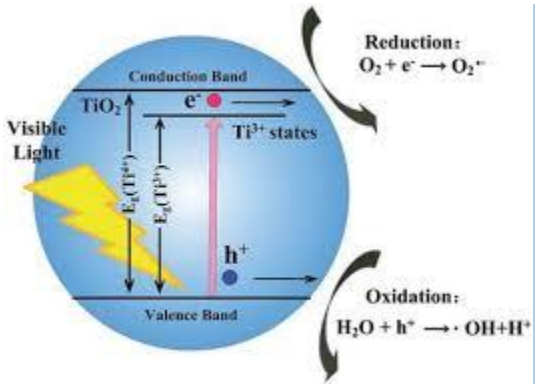

Pump
AQDS /AQDSH2 Storage tank
e⁻
Carbon paper
Carbon paper
AQDS
AQDSH2
p-Si
n-Si
Br⁻
Br3⁻
AQDS
AQDSH2
Membrane
Photoelectrolysis cell
RFB
Br3⁻/Br⁻ Storage tank
Pump

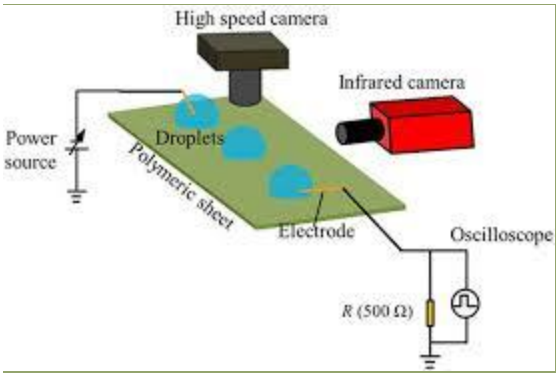


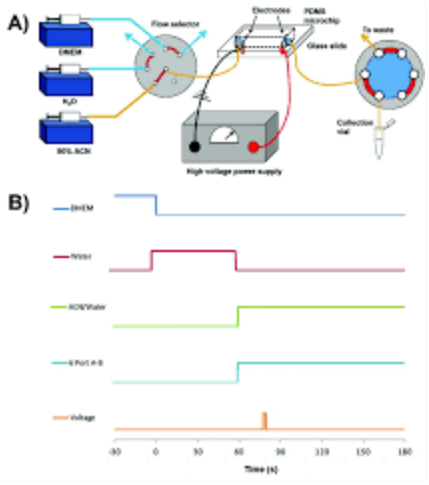


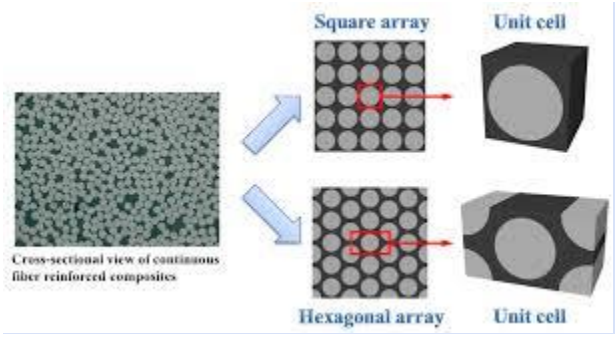

Enabling Electric Generation and H2 Production



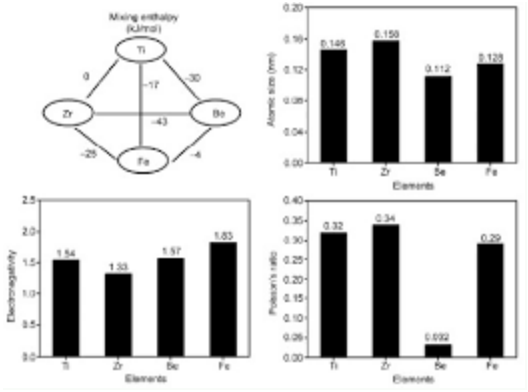

Conduction Band
TiO2
e⁻
Ti3+ states
Visible Light
Eg(Ti4+)
Eg(Ti3+)
h⁺
Valence Band
Reduction:
O2 + e⁻ ⟶ O2•⁻
Oxidation:
H2O + h⁺ ⟶ • OH+H⁺

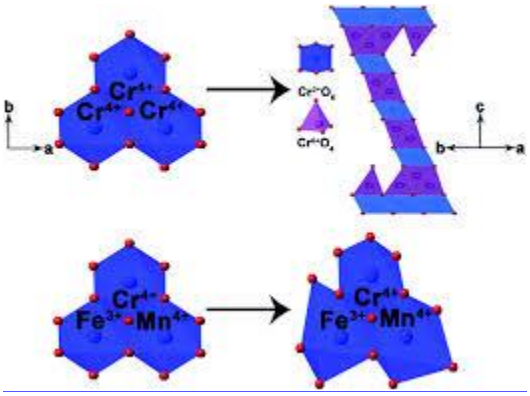

High speed camera
Infrared camera
Power source
Droplets
Polymeric sheet
Electrode
Oscilloscope
R (500 Ω)

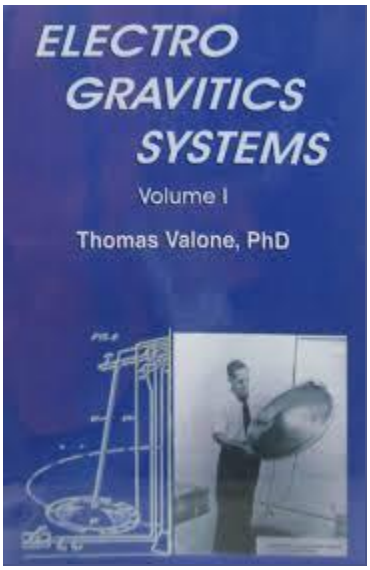

A)
B)


Square array
Unit cell
Cross-sectional view of continuous fiber reinforced composites
Hexagonal array
Unit cell

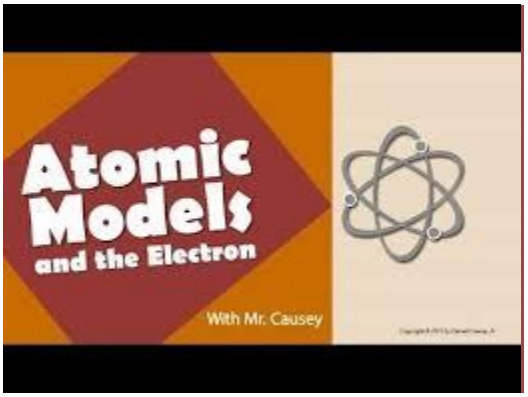

PLAN OF THE BUILDING - FIRST FLOOR
HELIPORT
North


Mixing enthalpy (kJ/mol)
Ti
Zr
Be
Fe
0
30
-17
-43
-25
-4
Atomic size (nm)
0.145
0.159
0.112
0.128
Elements
Electronegativity
1.54
1.33
1.57
1.83
Poisson's ratio
0.32
0.34
0.092
0.29

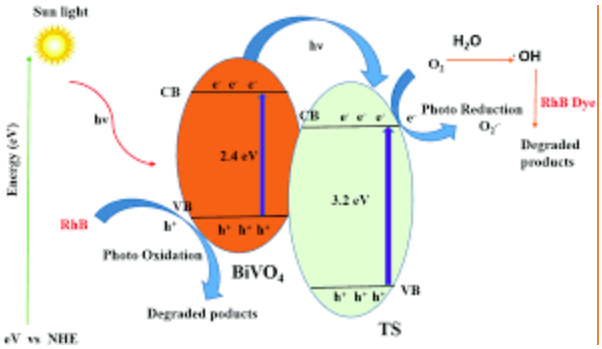

b
a
c
b
a
Cr4+
Cr4+
Cr4+
Cr4+O4
Cr4+O4
Cr4+
Fe3+
Mn4+
Cr4+
Fe3+
Mn4+

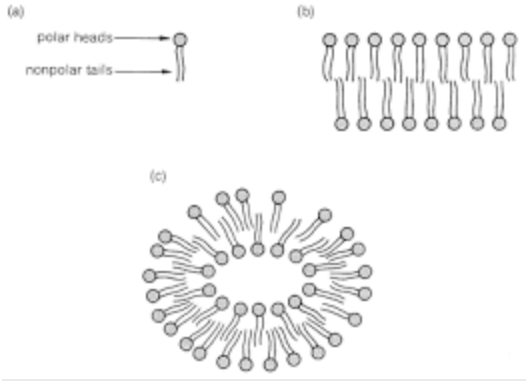

ELECTRO
GRAVITICS
SYSTEMS
Volume I
Thomas Valone, PhD

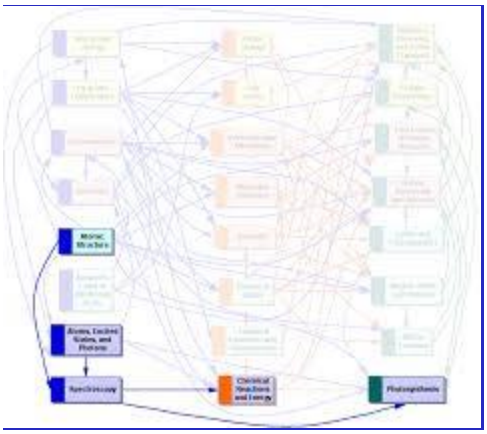


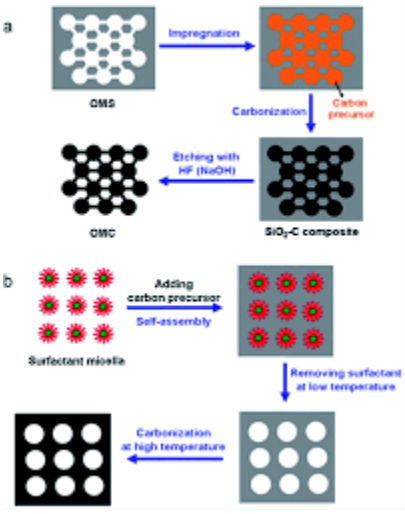

Atomic
Models
and the Electron
With Mr. Causey

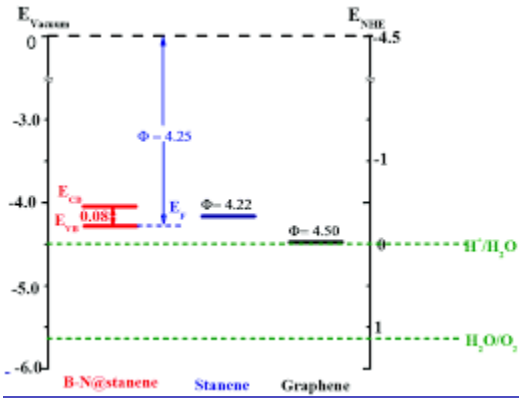


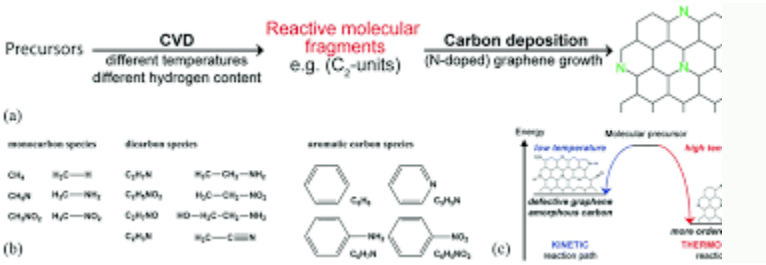

Sun light
hν
H2O
O2
OH
CB
e⁻ e⁻ e⁻
hν
2.4 eV
VB
h⁺ h⁺ h⁺
RhB
h⁺
Photo Oxidation
Degraded poducts
BiVO4
CB
e⁻ e⁻ e⁻
e⁻
Photo Reduction
O2⁻
RhB Dye
Degraded products
3.2 eV
h⁺ h⁺ h⁺
VB
TS
Energy (eV)
eV vs NHE

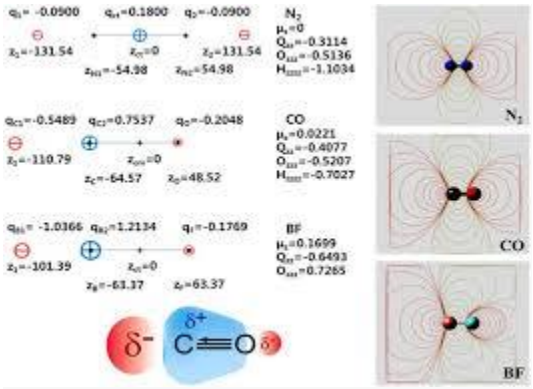

(a)
polar heads
nonpolar tails
(b)
(c)



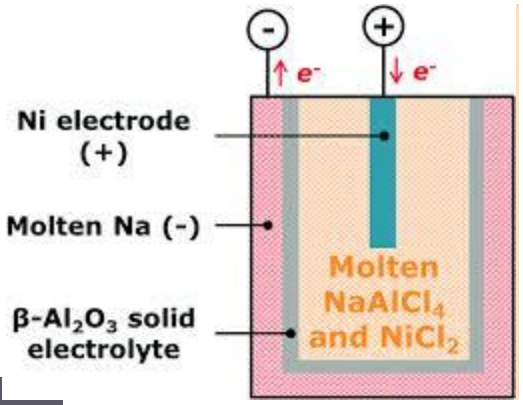

a
Impregnation
OMS
Carbonization
Carbon precursor
Etching with HF (NaOH)
OMC
SiO2-C composite
b
Adding carbon precursor
Self-assembly
Surfactant micelle
Removing surfactant at low temperature
Carbonization at high temperature

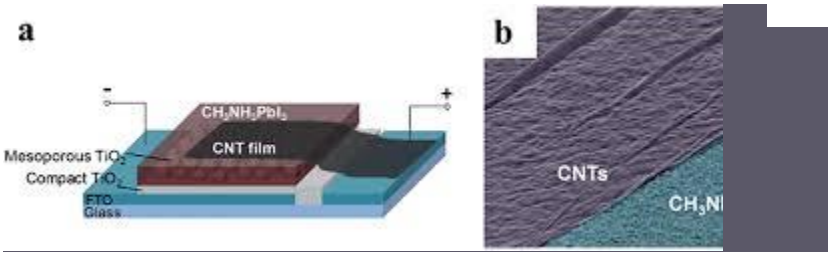

E Vacuum
E NHE
0
-3.0
-4.0
-5.0
-6.0
-4.5
-1
0
1
Φ = 4.25
E CB
E VB
0.08
E F
Φ= 4.22
Φ= 4.50
H+/H2O
H2O/O2
B-N@stanene
Stanene
Graphene

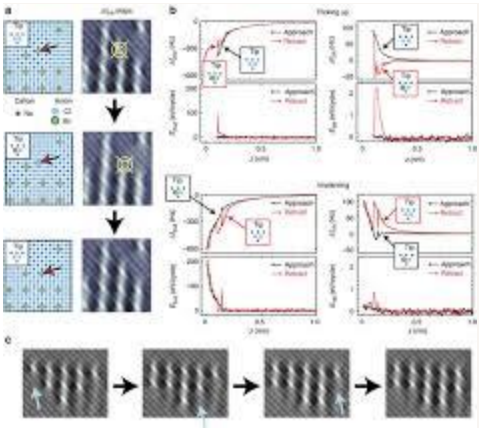

Precursors
CVD
different temperatures
different hydrogen content
Reactive molecular fragments
e.g. (C2-units)
Carbon deposition
(N-doped) graphene growth
(a)
(b)
(c)
monocarbon species
dicarbon species
aromatic carbon species
defective graphene
amorphous carbon
KINETIC
reaction path

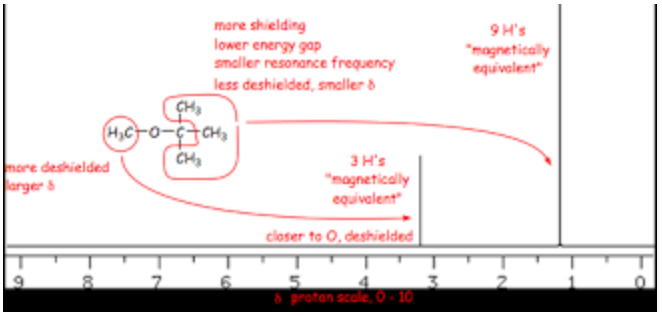

N2
CO
BF
N2
CO
BF

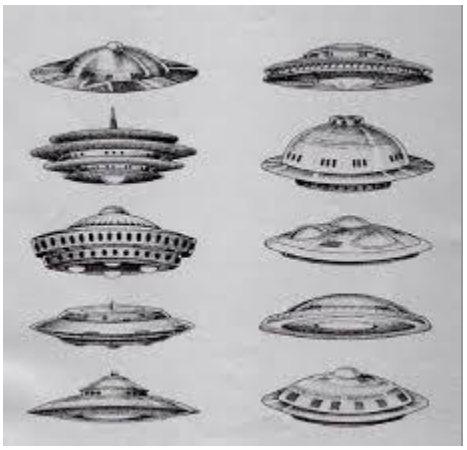


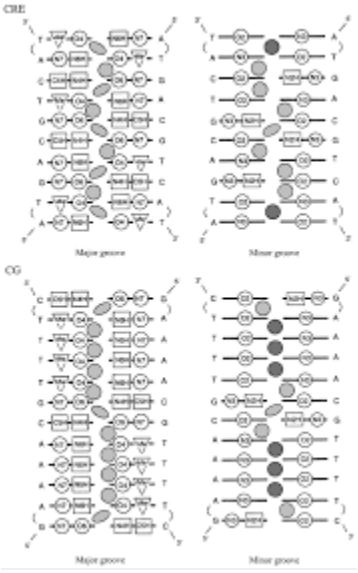

e-
e-
Ni electrode
(+)
Molten Na (-)
β-Al2O3 solid
electrolyte
Molten
NaAlCl4
and NiCl2

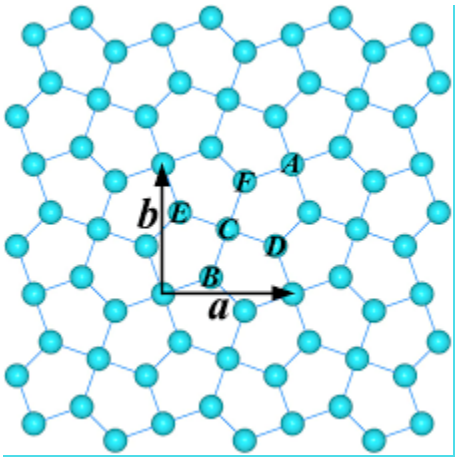

a
b
CH3NH3PbI3
CNT film
Mesoporous TiO2
Compact TiO2
FTO
Glass
CNTs
CH3NI

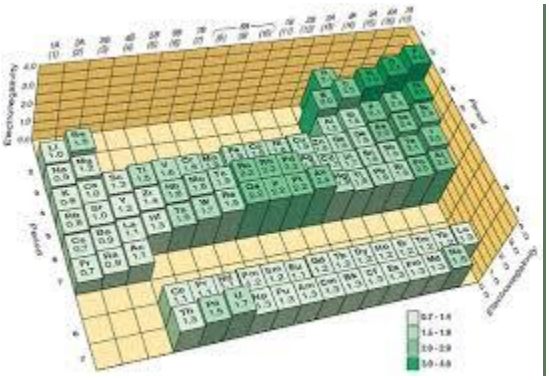


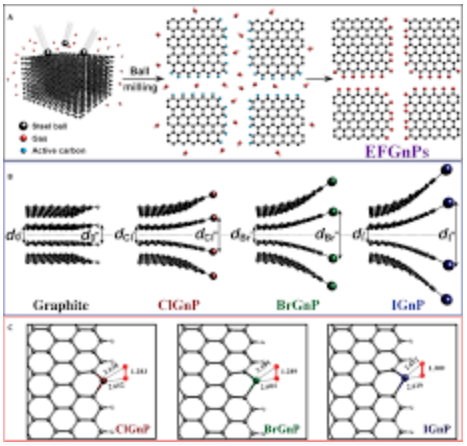

more shielding
lower energy gap
smaller resonance frequency
less deshielded, smaller δ
9 H's
"magnetically equivalent"
more deshielded
larger δ
3 H's
"magnetically equivalent"
closer to O, deshielded
9
8
7
6
5
4
3
2
1
0
δ proton scale, 0 - 10

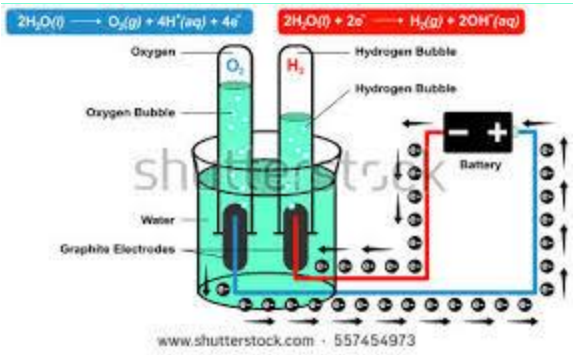


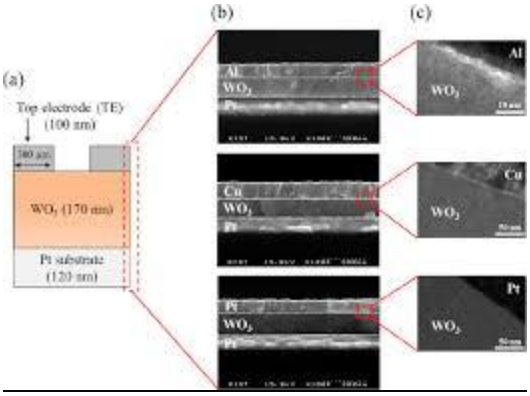

CRE
CG
Major groove
Minor groove

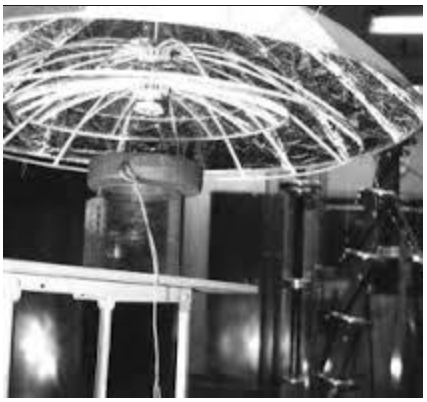

A
F
b
E
C
D
B
a

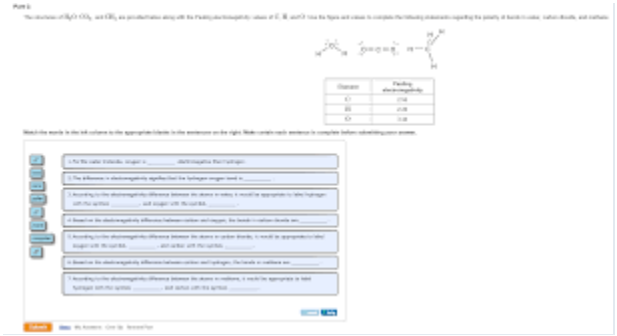


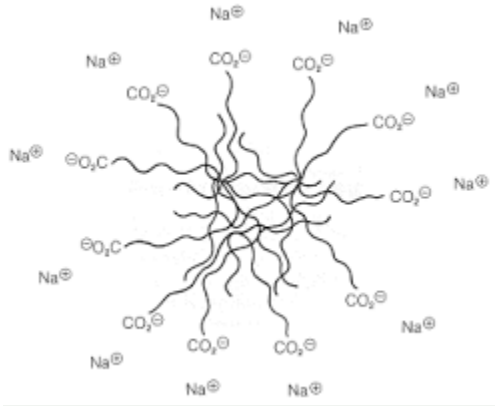

Ball milling
Steel ball
Gas
Active carbon
EFGnPs
Graphite
ClGnP
BrGnP
IGnP

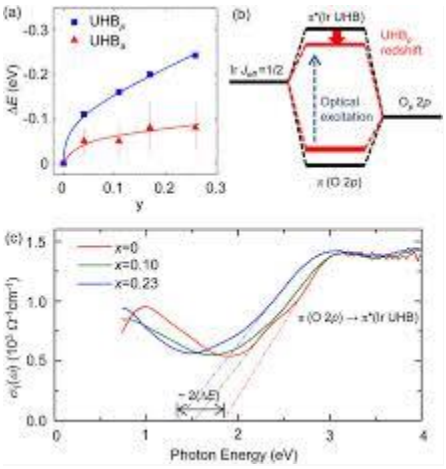

2H2O(l) → O2(g) + 4H+(aq) + 4e-
2H2O(l) + 2e- → H2(g) + 2OH-(aq)
Oxygen
Hydrogen Bubble
Oxygen Bubble
Hydrogen Bubble
Battery
Water
Graphite Electrodes
www.shutterstock.com · 557454973

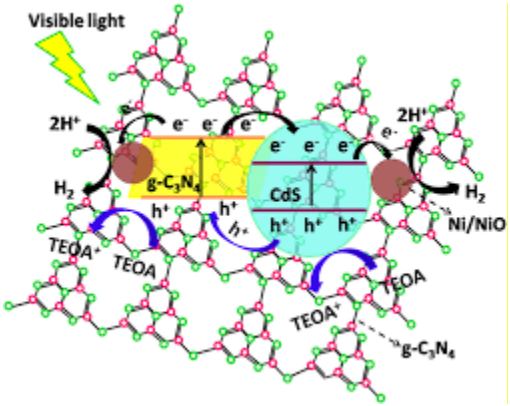

(a)
Top electrode (TE)
(100 nm)
WO3 (170 nm)
Pt substrate
(120 nm)
(b)
(c)
Al
Cu
Pt
WO3



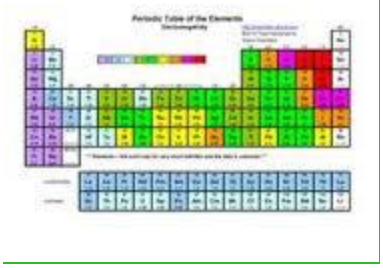


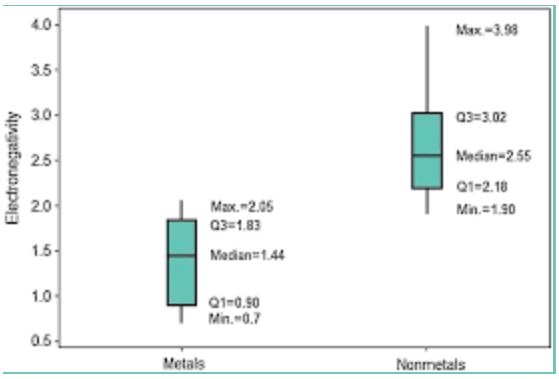

Na⊕
CO2⊖
⊖O2C

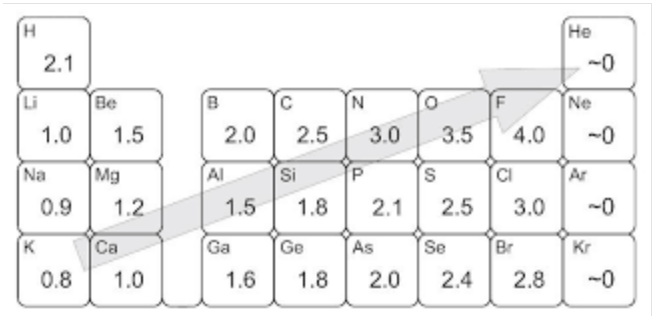

(a)
UHBπ
UHBσ
ΔE (eV)
y
(b)
π*(Ir UHB)
UHBσ redshift
Ir jeff=1/2
Optical excitation
O p 2p
π (O 2p)
(c)
x=0
x=0.10
x=0.23
π (O 2p) → π*(Ir UHB)
2(ΔE)
Photon Energy (eV)

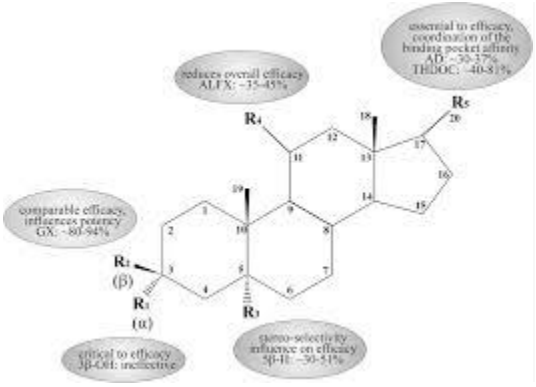

Visible light
2H+
H2
g-C3N4
CdS
h+
e-
TEOA
TEOA+
Ni/NiO

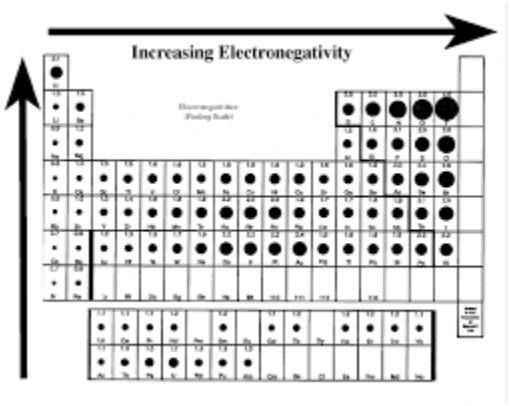

FULL VACUUM at
1.72x10^-6 Torr
C1
SP

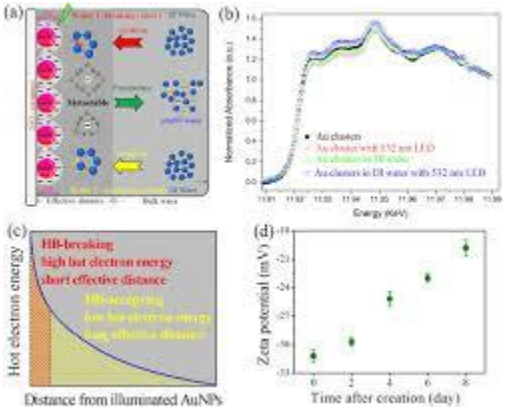


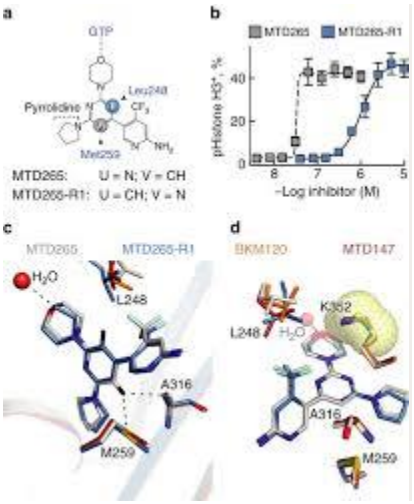

Electronegativity
Max.=3.98
Q3=3.02
Median=2.55
Q1=2.18
Min.=1.90
Max.=2.05
Q3=1.83
Median=1.44
Q1=0.90
Min.=0.7
Metals
Nonmetals

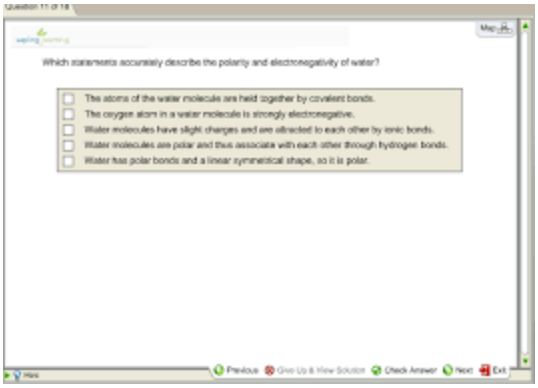

H 2.1
He ~0
Li 1.0
Be 1.5
B 2.0
C 2.5
N 3.0
O 3.5
F 4.0
Ne ~0
Na 0.9
Mg 1.2
Al 1.5
Si 1.8
P 2.1
S 2.5
Cl 3.0
Ar ~0
K 0.8
Ca 1.0
Ga 1.6
Ge 1.8
As 2.0
Se 2.4
Br 2.8
Kr ~0

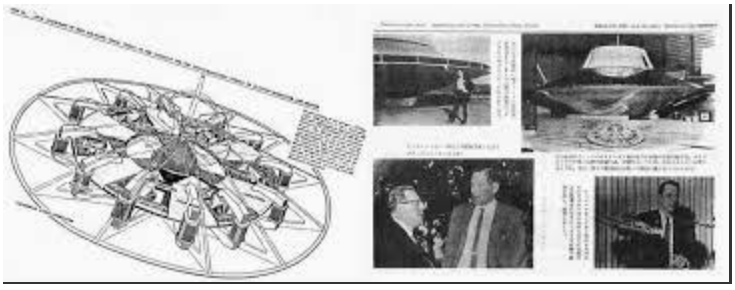

reduces overall efficacy
ALFX: ~35-45%
essential to efficacy, coordination of the binding pocket affinity
AD: ~50-57%
TBDOC: ~40-81%
comparable efficacy, influences potency
GX: ~80-94%
critical to efficacy
3β-OH: ineffective
steric-selectivity influence on efficacy
5β-H: ~30-51%


Increasing Electronegativity

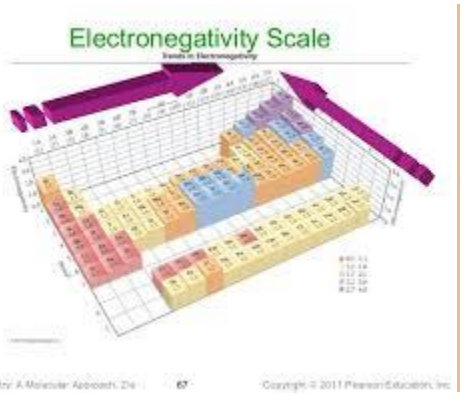

(a)
(b)
(c)
(d)
Hot electron energy
Distance from illuminated AuNPs
Zeta potential (mV)
Time after creation (day)

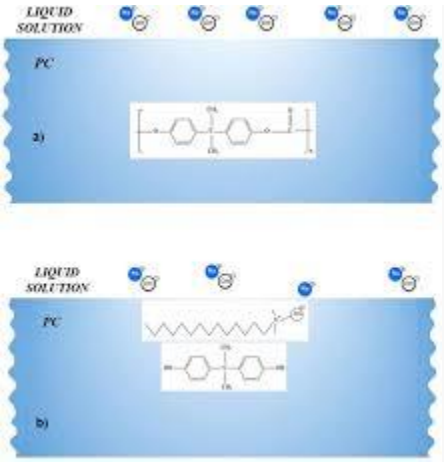

a
GTP
Pyrrolidine
Leu248
Met259
MTD265: U = N; V = CH
MTD265-R1: U = CH; V = N
b
MTD265
MTD265-R1
pHistone H3*, %
-Log inhibitor (M)
c
MTD265
MTD265-R1
L248
A316
M259
d
BKM120
MTD147
K362
L248
A316
M259

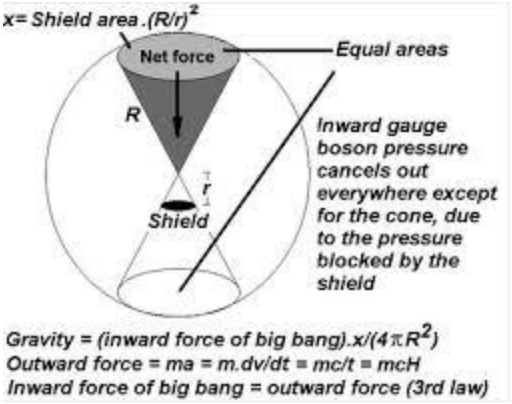

Which statements accurately describe the polarity and electronegativity of water?
The atoms of the water molecule are held together by covalent bonds.
The oxygen atom in a water molecule is strongly electronegative.
Water molecules have slight charges and are attracted to each other by ionic bonds.
Water molecules are polar and thus associate with each other through hydrogen bonds.
Water has polar bonds and a linear symmetrical shape, so it is polar.











H 2.1																He	
Li 1.0	Be 1.5											B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne
Na 0.9	Mg 1.2											Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe 2.6
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une									

Ce 1.1	Pr 1.1	Nd 1.1	Pm 1.1	Sm 1.1	Eu 1.1	Gd 1.1	Tb 1.1	Dy 1.1	Ho 1.1	Er 1.1	Tm 1.1	Yb 1.1	Lu 1.2	
Th 1.3	Pa 1.5	U 1.7	Np 1.3	Pu 1.3	Am 1.3	Cm 1.3	Bk 1.3	Cf 1.3	Es 1.3	Fm 1.3	Md 1.3	No 1.3	Lr	

Solid *Energy Bands* | Molecular Cluster | Molecule *Energy Levels*

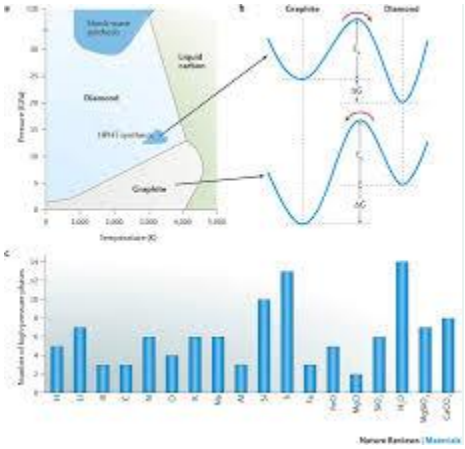


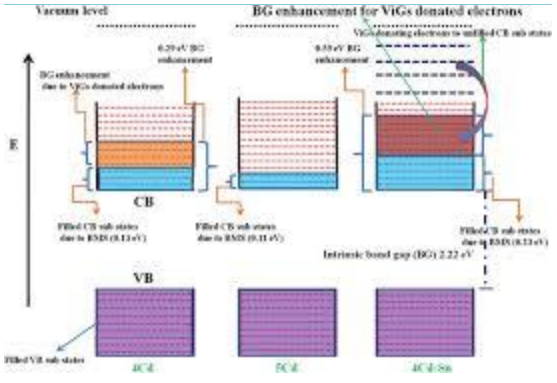
ΔE = Molecular excitation gap (E_{LUMO} - E_{HOMO})

E_g = Band Gap

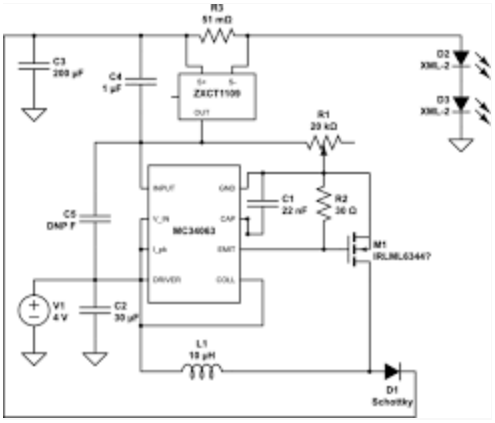
W_{VB} = Valence band width

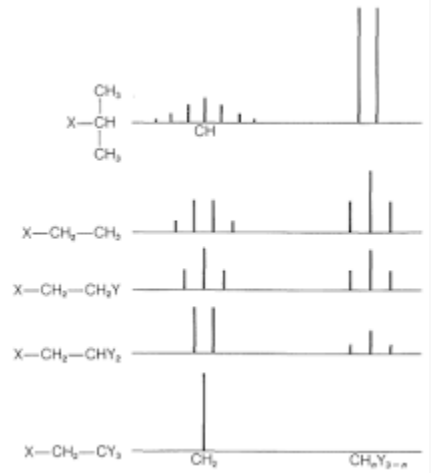
W_{CB} = Conduction band width

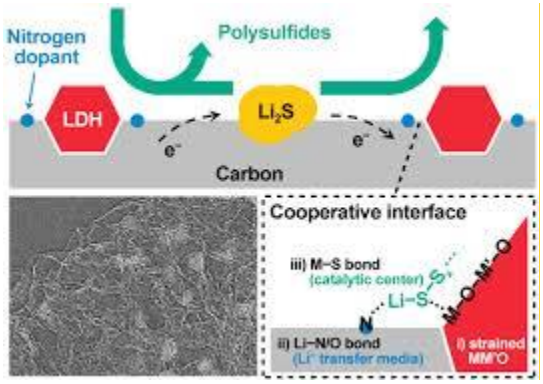


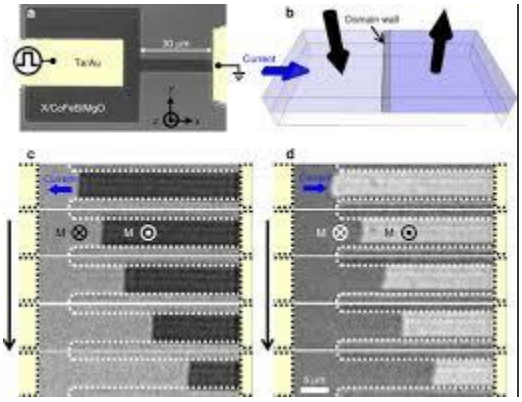


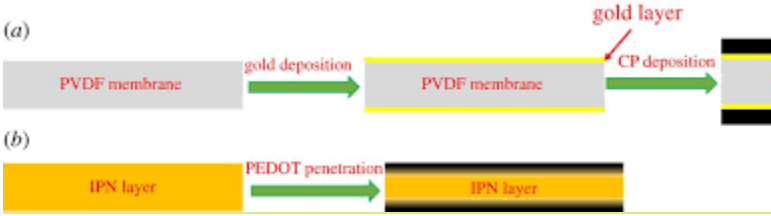




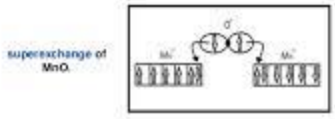


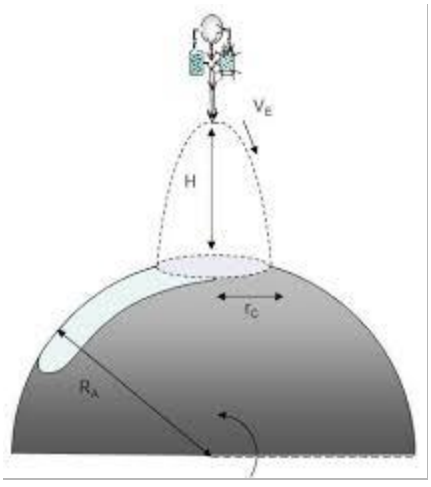


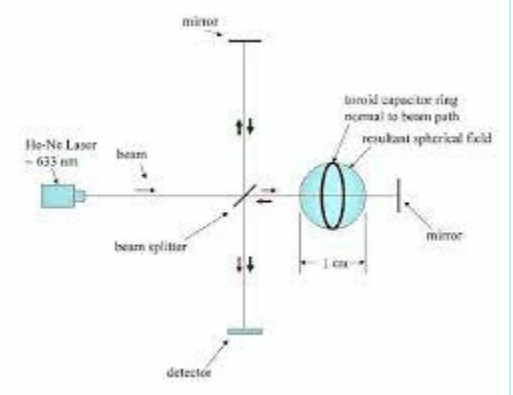




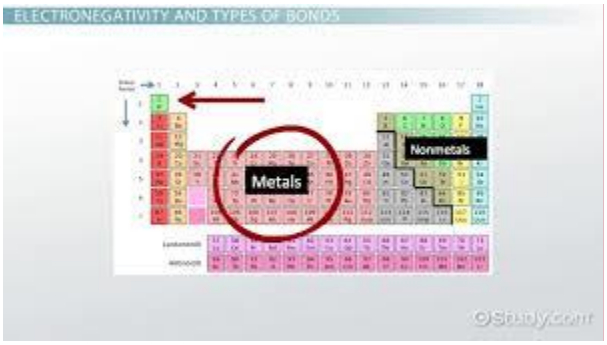
A schematic of the superexchange mechanism is shown in Figure. It is energetically favorable for this ionic compound to possess a degree of covalent bonding. Since both the Mn and O ions have full electron shells, hybridization occurs by the donation of the O^{2-} electrons to the open orbitals of the Mn^{2+} ions. The Mn^{2+}orbitals containing up-spin electrons receives one down-spin electron from the O^{2-} p orbital leaving one up-spin O^{2-} electron. The O^{2-} ion is then able to donate it's up-spin to the next Mn^{2+} ion in the chain completing the bonds. This donation, however, only occurs if the nextMn^{2+} ion has it's d elections in the down-spin orientation. Since by Hund's Rule all unpaired electrons must align with parallel spins within an orbital, all of the Mn^{2+} electron spins must be flipped. This is the superexchange. Thus the Mn^{2+} ions are aligned with opposing spins within the crystalline structure.









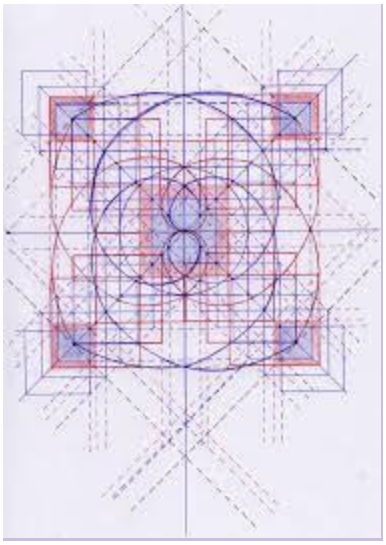


What Type of Bonding?

In a bond between N & H

EN Values N = 3.0, H = 2.1

N 3.0 : H 2.1

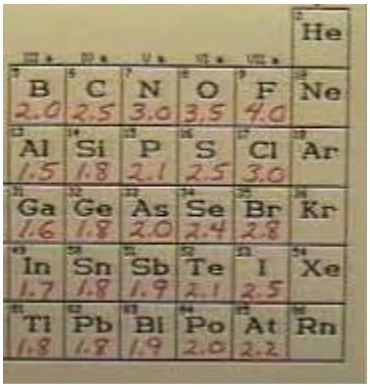


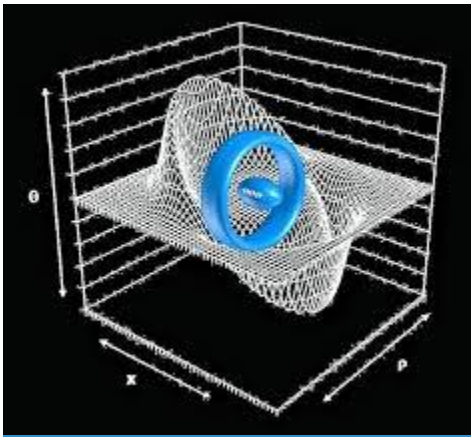
ELECTRO-CHEMICAL SERIES

Negative End —

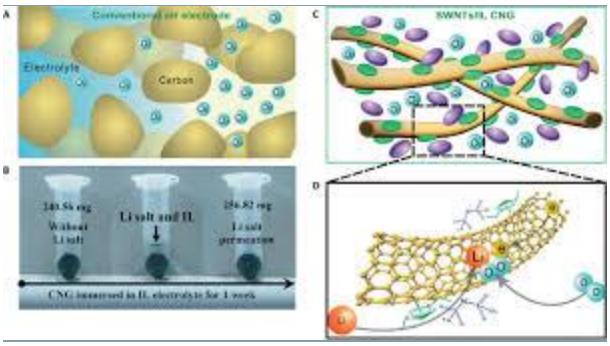
Oxygen.
Sulphur.
Nitrogen.
Fluorine.
Chlorine.
Bromine.
Iodine.
Selenium
Phosphorus.
Arsenic.
Chromium.
Vanadium.
Molybdenum.
Tungsten.
Boron.
Carbon.
Antimony.
Tellurium.
Tantalum.
Columbium.
Titanium.
Silicon.
Hydrogen.
Gold.
Osmium.
Iridium.
Platinum.
Rhodium.
Ruthenium.
Palladium.
Mercury.
Silver.
Copper.
Uranium.
Bismuth.
Tin.
Indium.
Lead.
Cadmium.
Thallium.
Cobalt.
Nickel.
Iron.
Zinc.
Manganese.
Lanthanum.
Didymium.
Cerium.
Thorium.
Zirconium.
Aluminum.
Erbium.
Yttrium.
Glucinum.
Magnesium.
Calcium.
Strontium.
Barium.
Lithium.
Sodium.
Potassium.
Rubidium.
Cæsium.

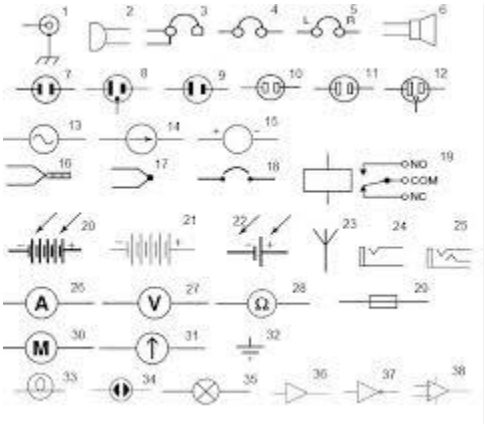
Positive End +



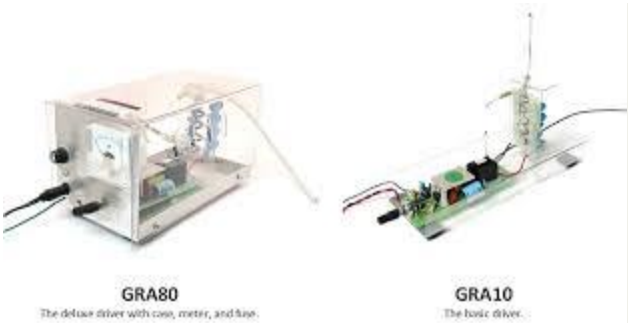






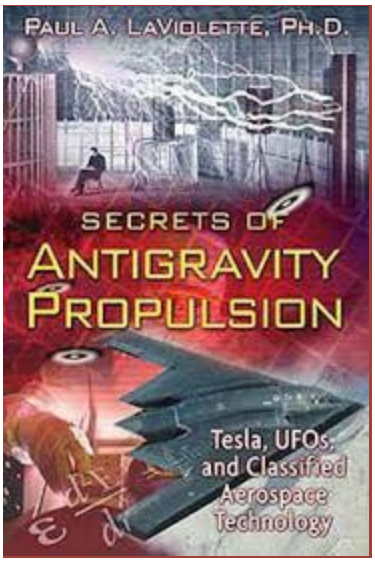


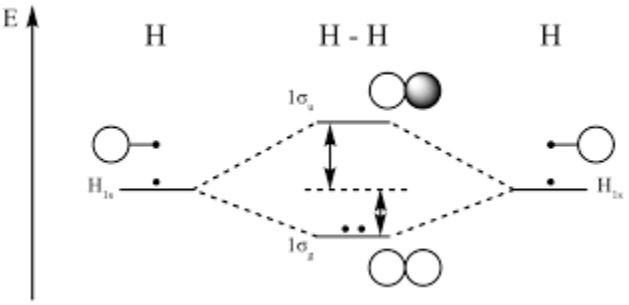




GRA80
The deluxe driver with case, meter, and fuse.

GRA10
The basic driver.







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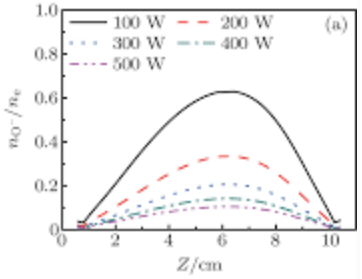
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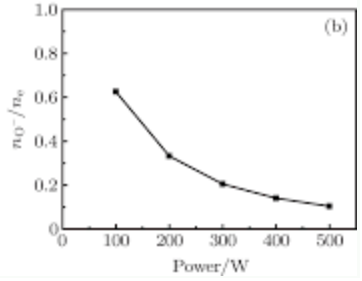
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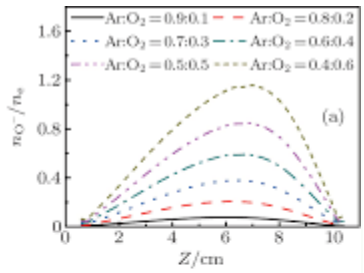
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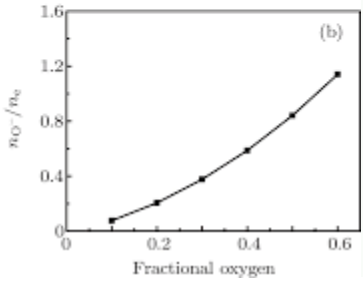
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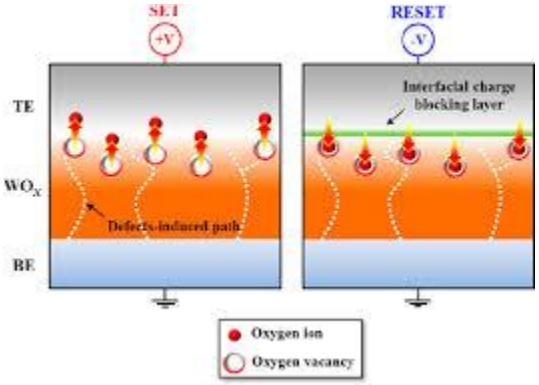












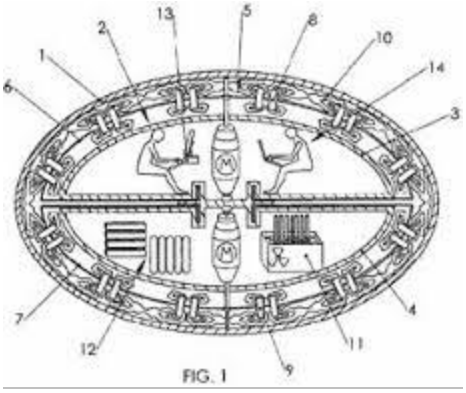


FIG. 1

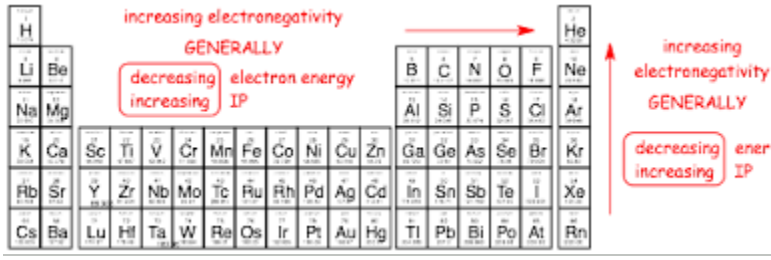
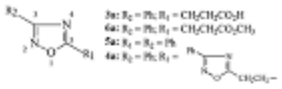


Table 5. Atomic charges on the oxadiazole ring, bond distances and angles of compounds 3a, 4a, 5a and 6a obtained from the HF/3-21g calculations.



Molecule	Atomic Charges				
	O_1	N_2	C_3	N_4	C_5
3a	-0.142152	-0.127994	0.146668	-0.285359	0.231073
6a	-0.142167	-0.128213	0.146548	-0.285413	0.231096
5a	-0.142079	-0.128031	0.146663	-0.285646	0.230245
4a	-0.141509	-0.126912	0.147286	-0.285869	0.230706

	Bond Distances (Å)				
	O_1-N_2	N_2-C_3	C_3-N_4	N_4-C_5	C_5-O_1
Experimental[a]	1.418	1.300	1.358	1.386	1.374
3a	1.392	1.321	1.424	1.386	1.374
6a	1.392	1.321	1.424	1.386	1.374
5a	1.390	1.322	1.428	1.312	1.375
4a	1.392	1.321	1.425	1.386	1.374

	Bond Angles (degree)				
	O_1-N_2-C_3	N_2-C_3-N_4	C_3-N_4-C_5	N_4-C_5-O_1	C_5-O_1-N_2
Experimental[a]	103.1	115.0	105.8	111.4	106.7
3a	104.75	115.35	101.88	113.39	106.63
6a	104.75	115.34	101.89	113.38	106.63
5a	104.72	115.50	101.92	113.30	106.75
4a	104.78	115.33	101.86	113.45	106.57

[a] The values were obtained from the x-ray data of the compound 2-(3-(o-chlorophenyl)-[1,2,4] oxadiazol-5-yl)-3,4-dihydro-1-naphthylamine(formaldehyde oxime)[25].

IONIC BONDING (con't)

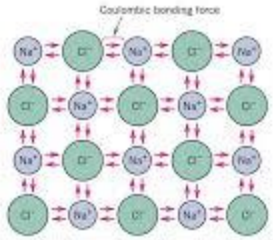
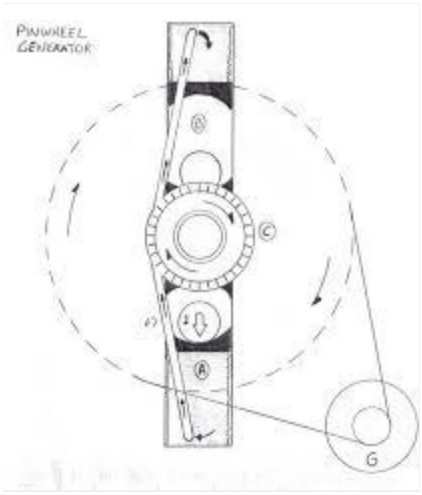
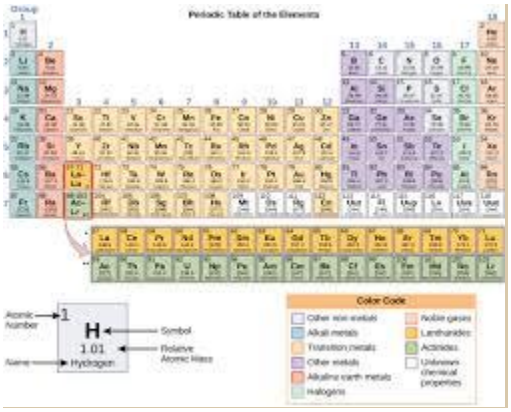
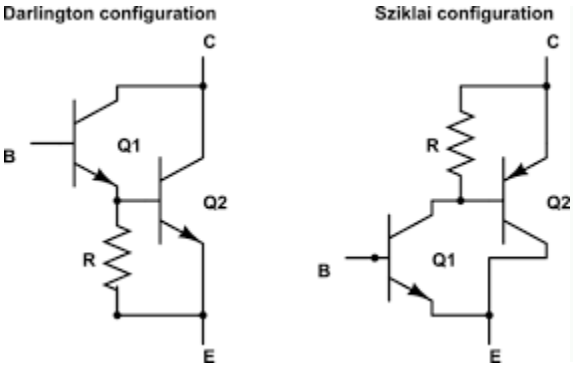


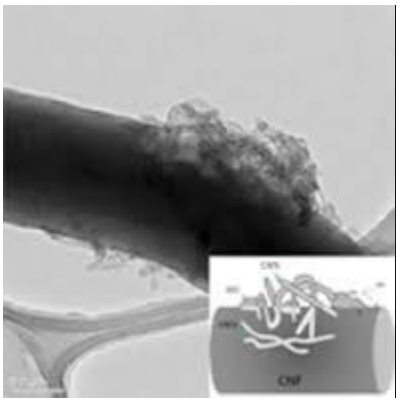
Fig 2.9 Schematic representation of ionic bonding in sodium chloride

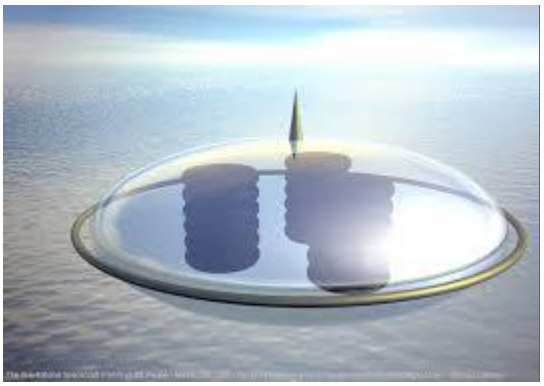

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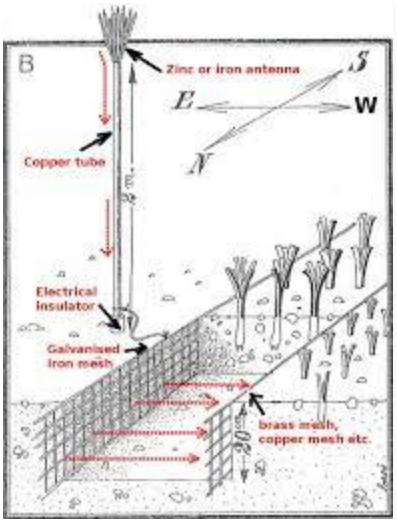

PINWHEEL GENERATOR
B
C
A
G


Periodic Table of the Elements
Atomic Number
Symbol
Name
Relative Atomic Mass
1
H
1.01
Hydrogen
Color Code


Darlington configuration
C
B
Q1
Q2
R
E
Sziklai configuration
C
R
Q2
B
Q1
E






B
Zinc or iron antenna
S
E
W
N
Copper tube
Electrical insulator
Galvanised iron mesh
brass mesh, copper mesh etc.

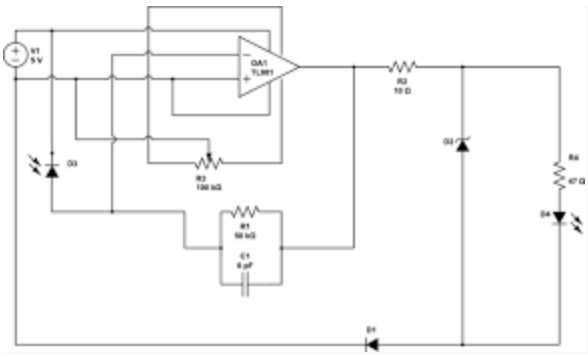
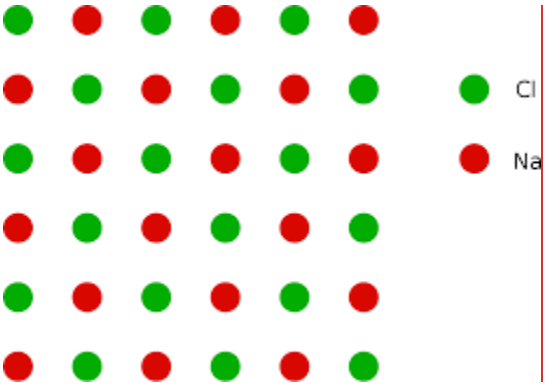


TABLE 18-1 ■ *The standard reduction potentials for selected elements and reactions*

	Metal	Electrode Potential E^0 (Volts)
Anodic	$Li^+ + e^- \rightarrow Li$	−3.05
	$Mg^{2+} + 2e^- \rightarrow Mg$	−2.37
	$Al^{3+} + 3e^- \rightarrow Al$	−1.66
	$Ti^{2+} + 2e^- \rightarrow Ti$	−1.63
	$Mn^{2+} + 2e^- \rightarrow Mn$	−1.63
	$Zn^{2+} + 2e^- \rightarrow Zn$	−0.76
	$Cr^{3+} + 3e^- \rightarrow Cr$	−0.74
	$Fe^{2+} + 2e^- \rightarrow Fe$	−0.44
	$Ni^{2+} + 2e^- \rightarrow Ni$	−0.25
	$Sn^{2+} + 2e^- \rightarrow Sn$	−0.14
	$Pb^{2+} + 2e^- \rightarrow Pb$	−0.13
	$2H^+ + 2e^- \rightarrow H_2$	0.00 — (defined)
	$Cu^{2+} + 2e^- \rightarrow Cu$	+0.34
	$O_2 + 2H_2O + 4e^- \rightarrow 4OH^-$	+0.40
	$Ag^+ + e^- \rightarrow Ag$	+0.80
	$Pt^{4+} + 4e^- \rightarrow Pt$	+1.20
	$O_2 + 4H^+ + 4e^- \rightarrow 2H_2O$	+1.23
Cathodic	$Au^{3+} + 3e^- \rightarrow Au$	+1.50

(Credit: © Cengage Learning 2014)



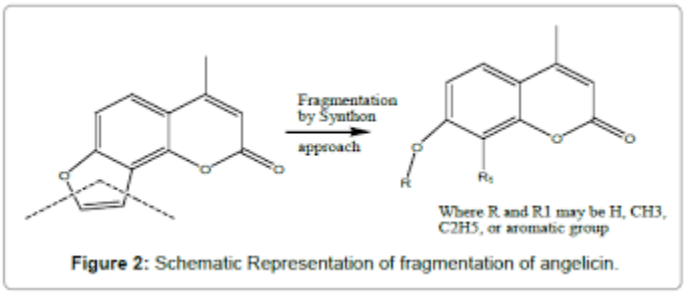
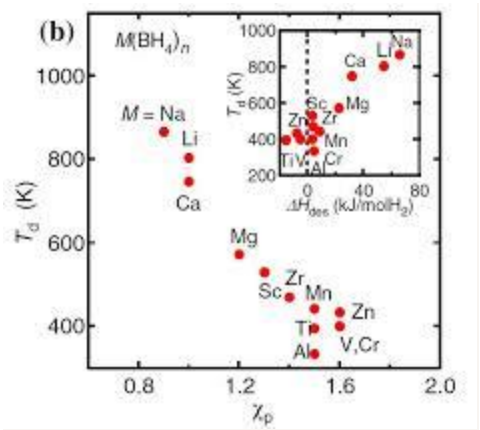
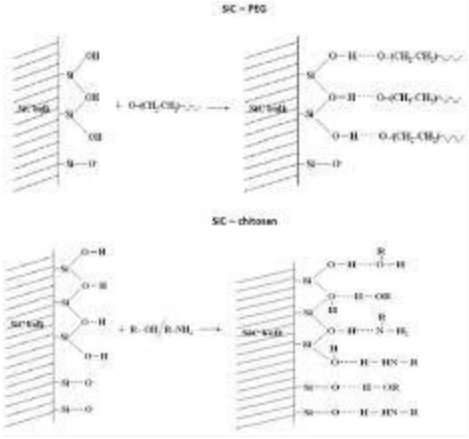
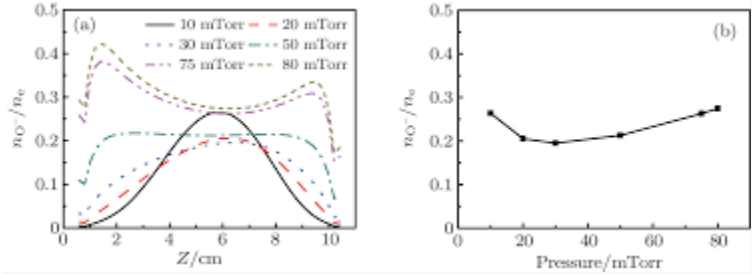
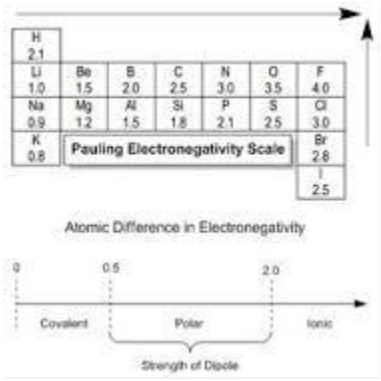


Figure 2: Schematic Representation of fragmentation of angelicin.

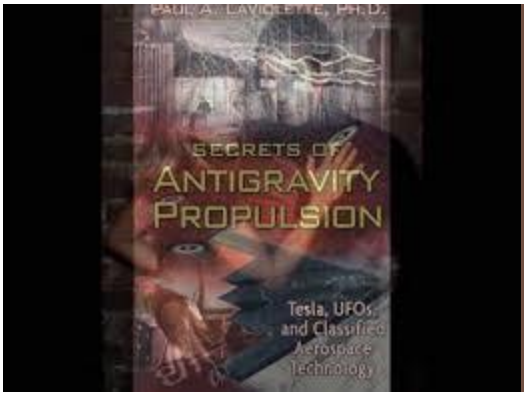




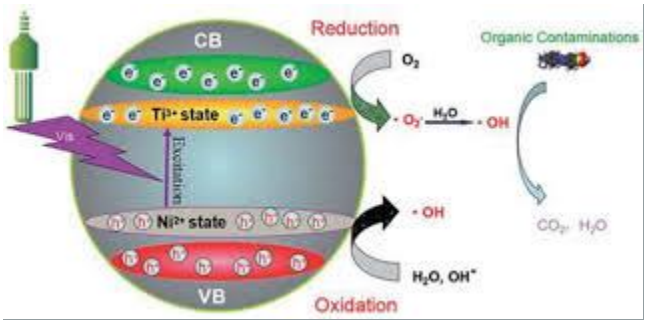


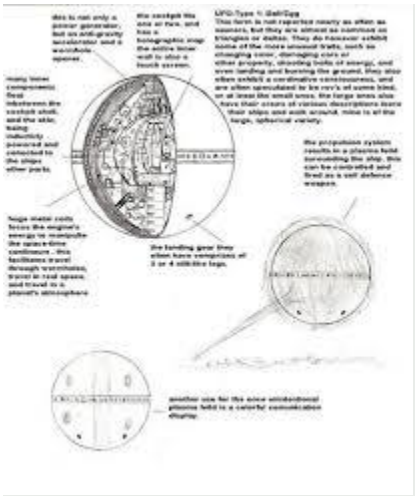


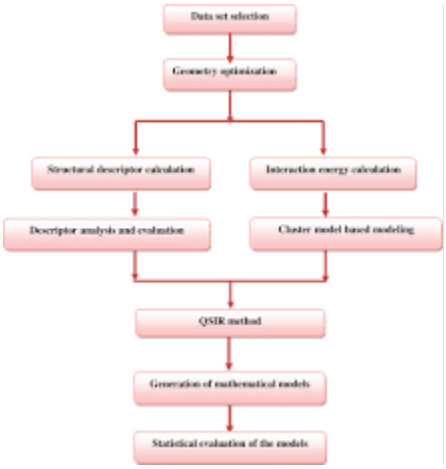


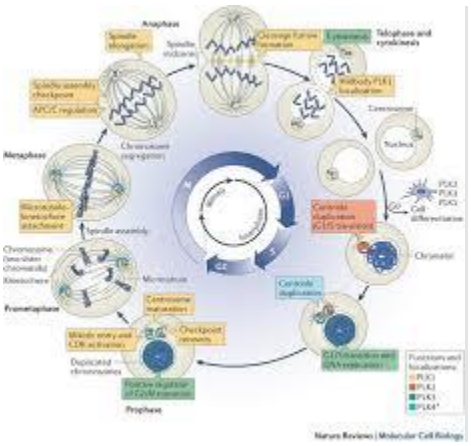




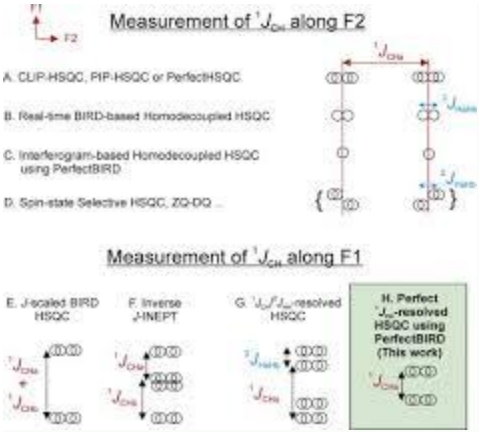




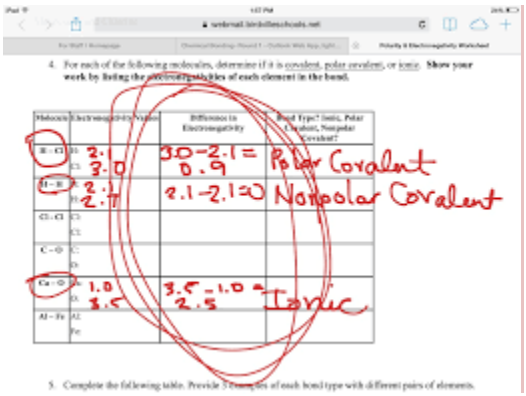


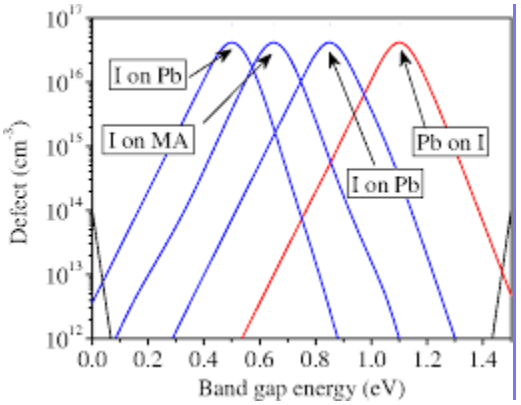


17. DEMAND THESE TECHNOLOGIES, AND YOU SHALL RECEIVE
18. GIVE ME REAL OPPORTUNITY OR I'LL GET IT MY SELF
19. STEALTH AND SPEED
20. NON AIR BREATHING ELECTROMAGNETIC PROPULSION
21. NATIONAL SECURITY AND THE STATUS QUO
22. FUEL BURNING SYSTEMS VS ELECTROMAGNETIC AND ELECTROMOTIVE SYSTEMS
23. U.NAUTHORIZED F ACTS IN O PERATION
24. SECRECY AS THE TOOL OF EVIL
25. UNDERGROUND BASES IN THE U.S.
26. WRAP UP
Appendix
A. U.S. PATENTS # 2,949,550
B. U.S. PATENT # 4,083,932
C. U.S. PATENT # 5,197,279
D. U.S. PATENT # 5,269,482
E. COLLECTION OF UFO AIRFOILS FROM PATENT ART
F. Collection of other possible drive systems of interest
Web Resources and
SUGGESTED READING



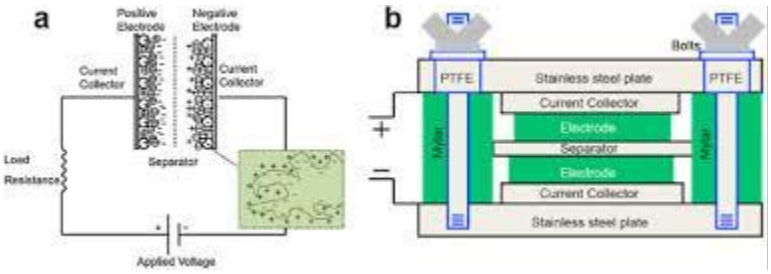


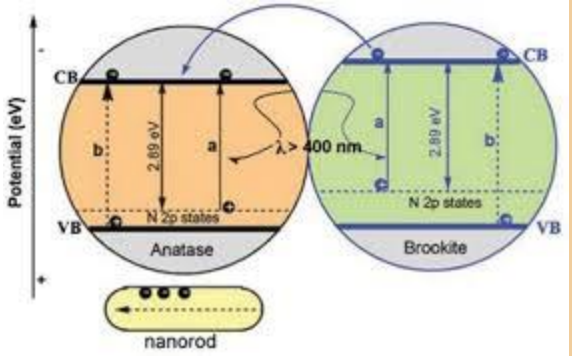


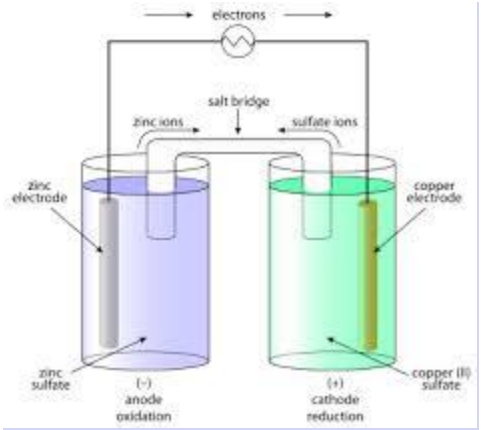


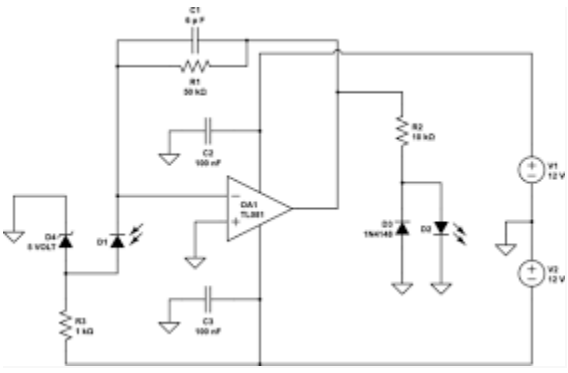
Which statements accurately describe the polarity and electronegativity of water?

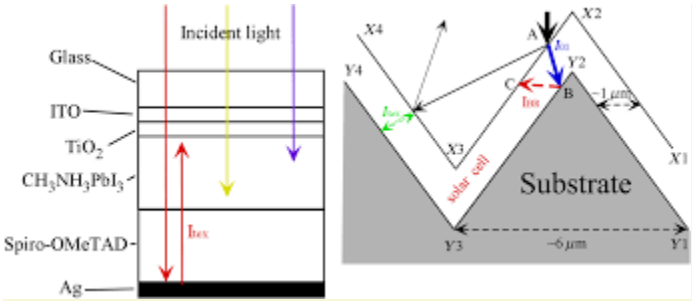
- [] A water molecule is polar, but it has no net charge.
- [] The oxygen atom in a water molecule is strongly electronegative.
- [] The atoms of the water molecule are held together by covalent bonds.
- [] Water has nonpolar bonds, but it has a bent shape and is therefore polar.
- [] Strong covalent bonds are formed between two or more water molecules.

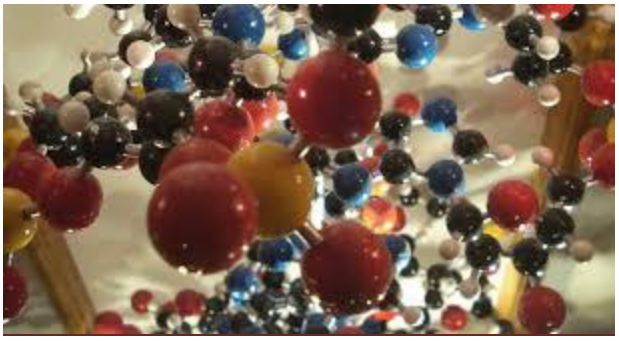


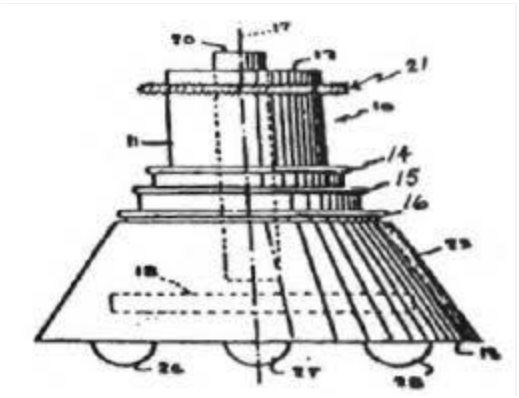


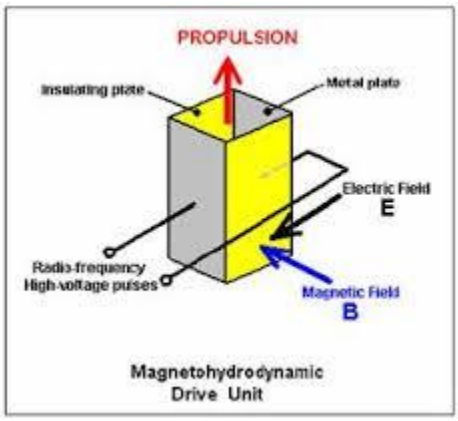


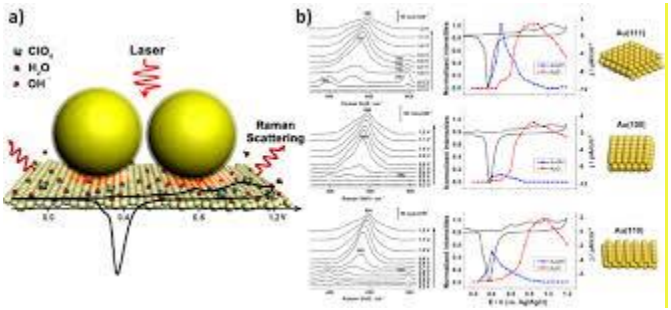


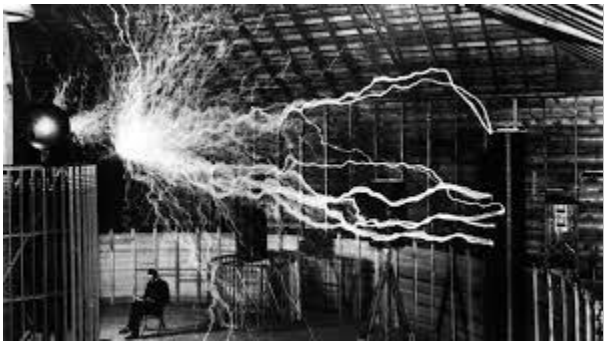


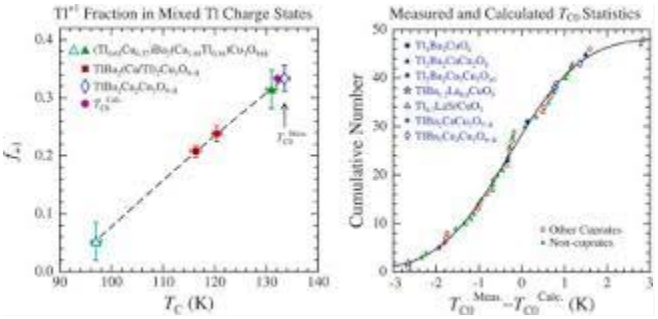


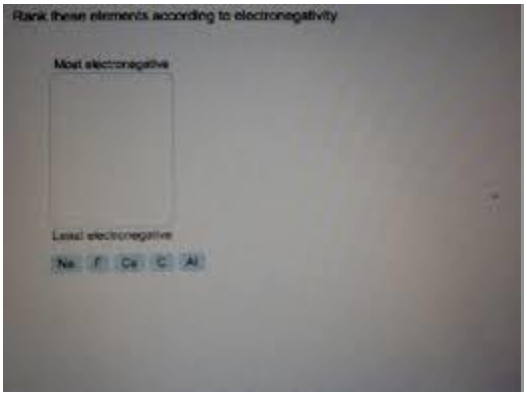


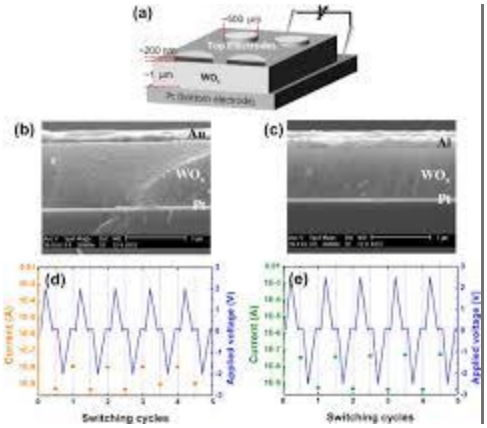

PROPULSION
Insulating plate
Metal plate
Electric Field
E
Radio-frequency
High-voltage pulses
Magnetic Field
B
Magnetohydrodynamic
Drive Unit

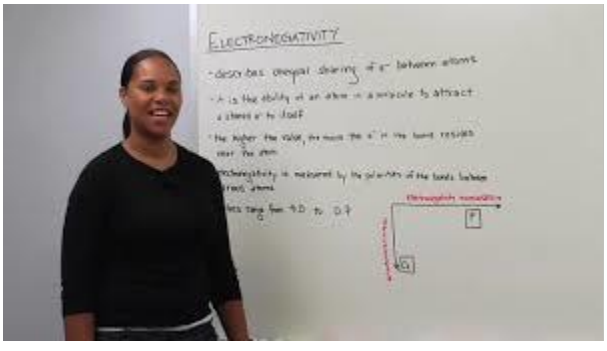

a)
b)
Laser
Raman
Scattering



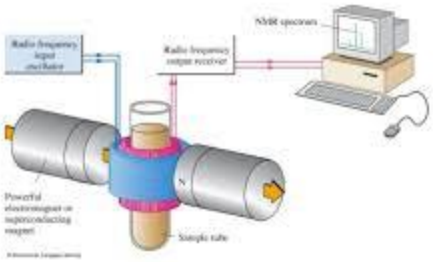

Measured and Calculated T_{C0} Statistics
Cumulative Number
T_C (K)

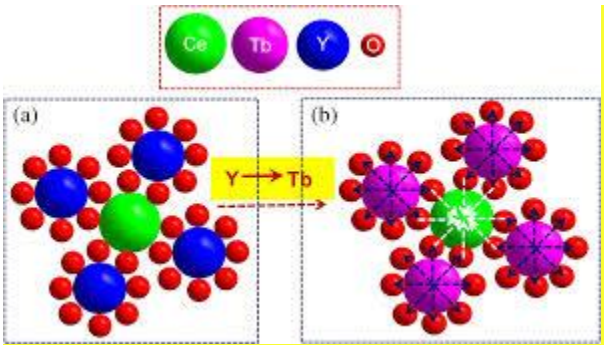

Rank these elements according to electronegativity
Most electronegative
Least electronegative
Na
F
Ca
C
Al

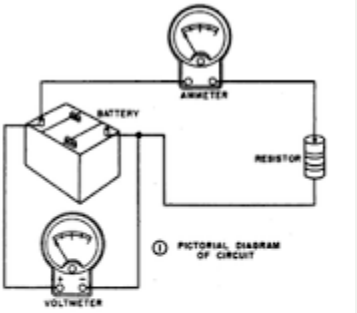

(a)
(b)
(c)
(d)
(e)
Switching cycles
Switching cycles


ELECTRONEGATIVITY

Schematic NMR Spectrometer







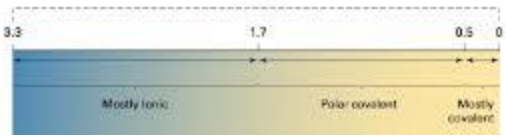
Electronegativity

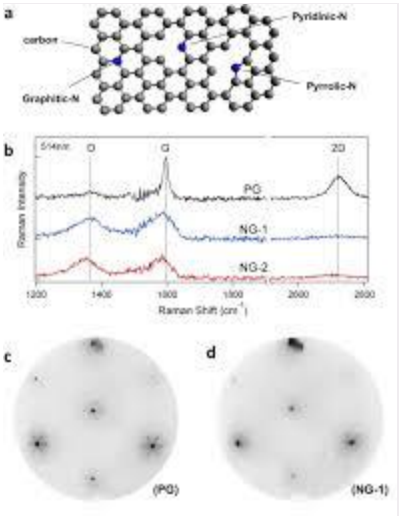
Examples:

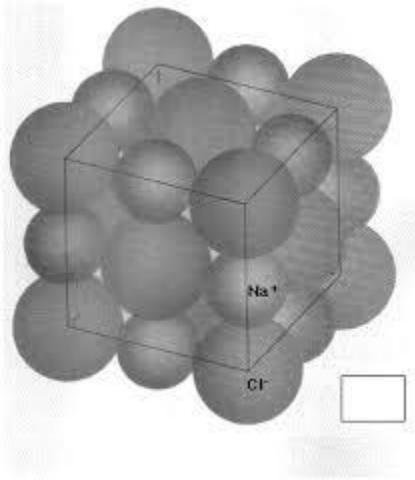
NaCl → Na has an EN of 0.93, Cl has an EN of 3.16

3.16 - 0.93 = 2.23

ΔEN = 2.23, therefore chlorine has a substantially greater pull on the bonding pair of electrons. This is an ionic bond.







Electron densities offer a very useful clue to the reactivity of a molecule

Two tools to determine electron densities:

- Apply **electronegativities** ⊕ O(δ−)–H, C(δ+)

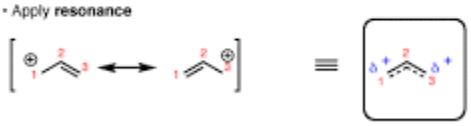
 example:

 Electronegativities:
 O : 3.5
 C : 2.5

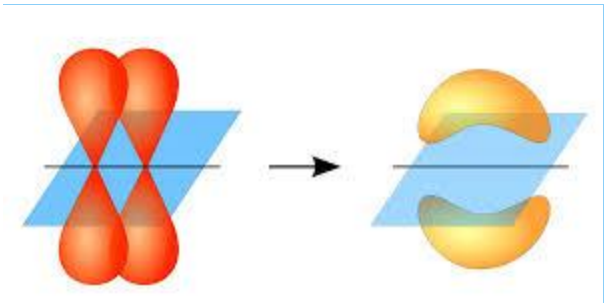
 The oxygen will have a high electron density (partial negative charge) due to its higher electronegativity (3.5) relative to carbon (2.5)

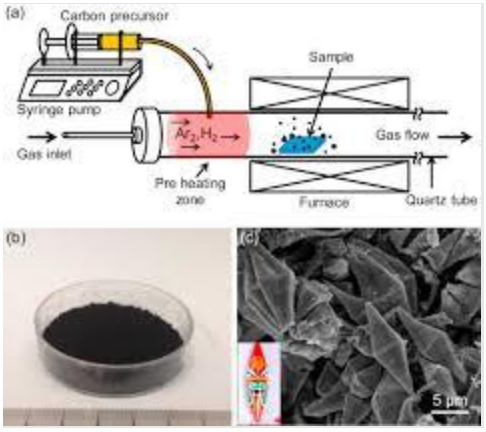
 (the formal charge of +1 on oxygen does **not** represent electron density!)

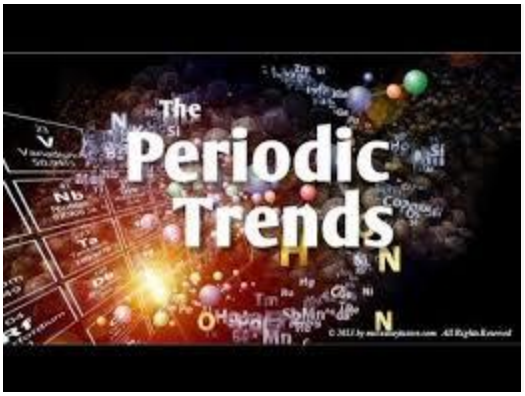
- Apply **resonance**

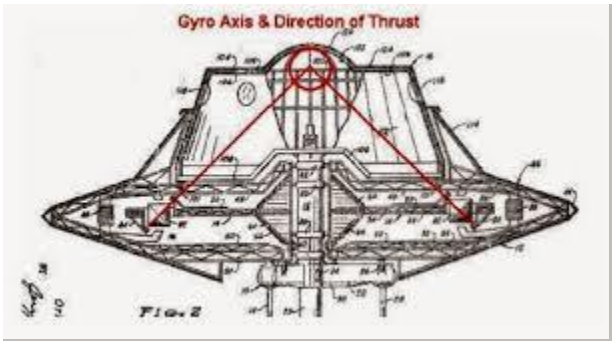


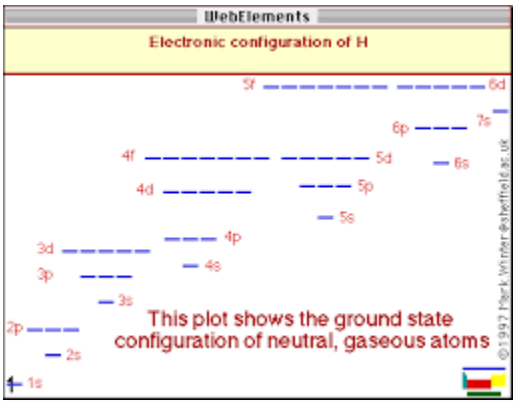
Together, these two tools tell you the electron densities, which will be *very* helpful for figuring out reactivity

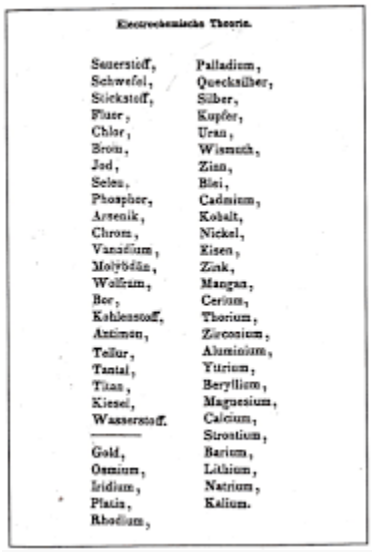






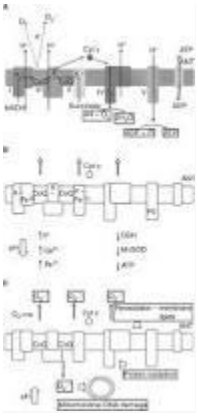


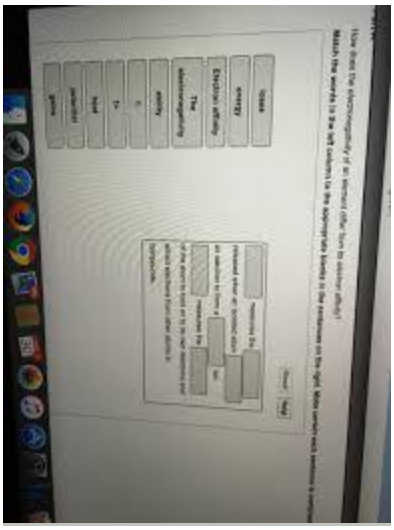




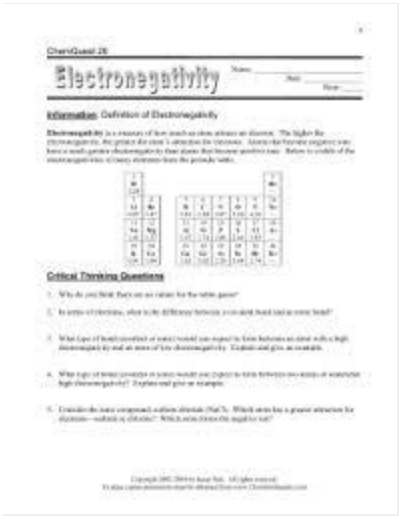
Electrochemische Theorie.

Sauerstoff,	Palladium,
Schwefel,	Quecksilber,
Stickstoff,	Silber,
Fluor,	Kupfer,
Chlor,	Uran,
Brom,	Wismuth,
Jod,	Zinn,
Selen,	Blei,
Phosphor,	Cadmium,
Arsenik,	Kobalt,
Chrom,	Nickel,
Vanadium,	Eisen,
Molybdän,	Zink,
Wolfram,	Mangan,
Bor,	Cerium,
Kohlenstoff,	Thorium,
Antimon,	Zirconium,
Tellur,	Aluminium,
Tantal,	Yttrium,
Titan,	Beryllium,
Kiesel,	Magnesium,
Wasserstoff.	Calcium,
	Strontium,
Gold,	Barium,
Osmium,	Lithium,
Iridium,	Natrium,
Platin,	Kalium.
Rhodium,	









ChemQuest 28

Electronegativity

Name: _____ Per: _____ Date: _____

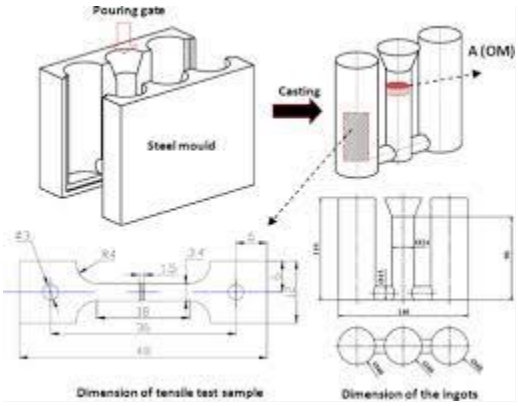
Information: Definition of Electronegativity

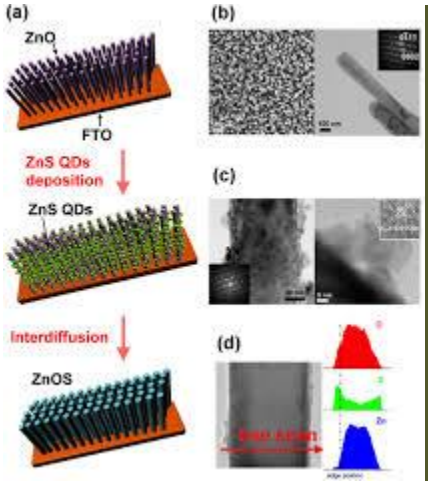
Electronegativity is a measure of how much an atom attracts an electron. The higher the electronegativity, the greater the atom's attraction for electrons. Atoms that have an electronegativity and a much greater electronegativity than atoms that become positive ions. Below is a table of the electronegativities of many elements from the periodic table.

Critical Thinking Questions

1. Why do you think there are no values for the noble gases?
2. In terms of electrons, what is the difference between a non-metal bond and a metal bond?
3. What type of bond (covalent or ionic) would you expect to form between an atom with a high electronegativity and an atom of low electronegativity. Explain and give an example.
4. What type of bond (covalent or ionic) would you expect to form between two atoms of moderately high electronegativity? Explain and give an example.
5. Consider the ionic compound, sodium chloride ($NaCl$). Which atom has a greater attraction for electrons—sodium or chlorine? Which atom forms the negative ion?

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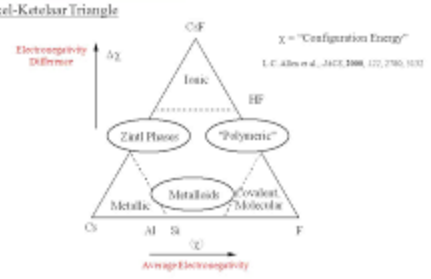


Band-Outs: 1

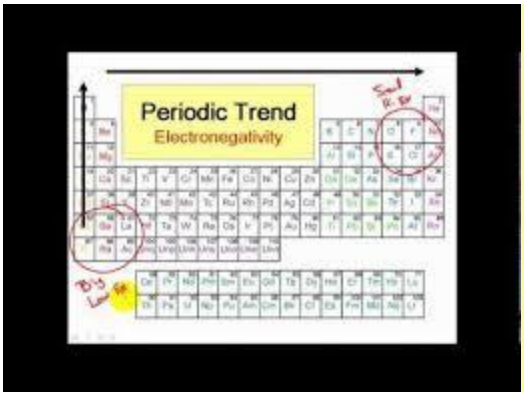
IV. Electronic Structure and Chemical Bonding

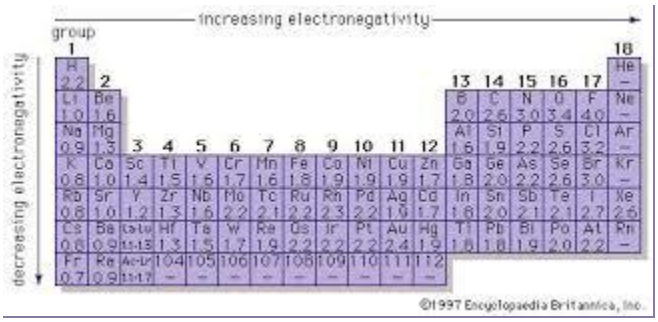
J.K. Burdett, *Chemical Bonding in Solids*

van Arkel-Ketelaar Triangle



L.C. Allen, *J. Am. Chem. Soc.* **1992**, *114*, 1510



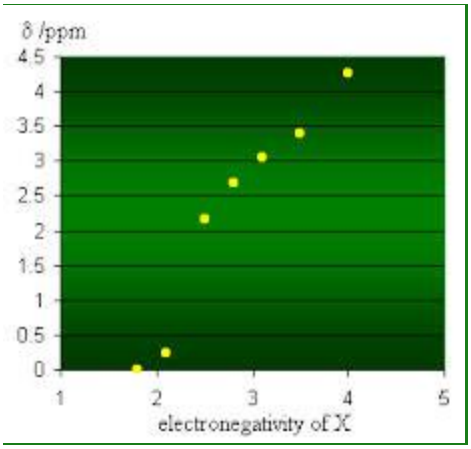


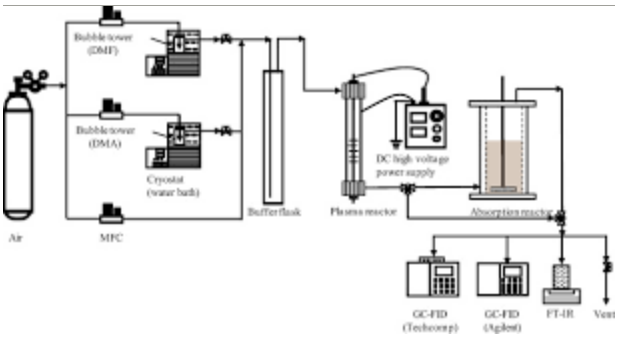
Factors to Affect ^{1}H Chemical Shift

Chemical shift : (1) electronegativity of nearby atoms, (2) hybridization of adjacent atoms, and (3) diamagnetic effects

Electronegativity

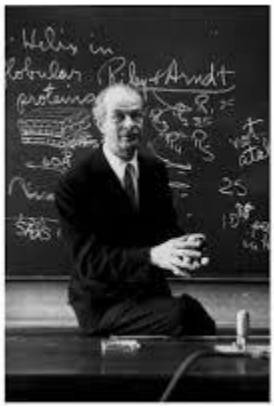
CH_3-X	Electronegativity of X	Chemical Shift (δ)
CH_3F	4.0	4.26
CH_3OH	3.5	3.47
CH_3Cl	3.1	3.05
CH_3Br	2.8	2.68
CH_3I	2.5	2.16
$(CH_3)_4C$	2.1	0.86
$(CH_3)_4Si$	1.8	0.00



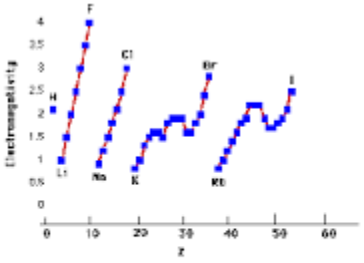


Element	*Atomic Radius (nm)*	*Crystal Structure*	*Electro-negativity*	*Valence*
Cu	0.1278	FCC	1.9	+2
C	0.071			
H	0.046			
O	0.060			
Ag	0.1445	FCC	1.9	+1
Al	0.1431	FCC	1.5	+3
Co	0.1253	HCP	1.8	+2
Cr	0.1249	BCC	1.6	+3
Fe	0.1241	BCC	1.8	+2
Ni	0.1246	FCC	1.8	+2
Pd	0.1376	FCC	2.2	+2
Pt	0.1387	FCC	2.2	+2
Zn	0.1332	HCP	1.6	+2

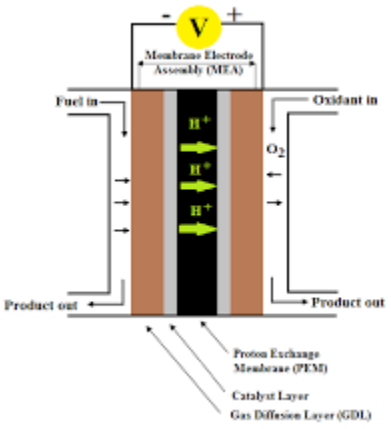
Which of these elements would you expect to form the following with copper:

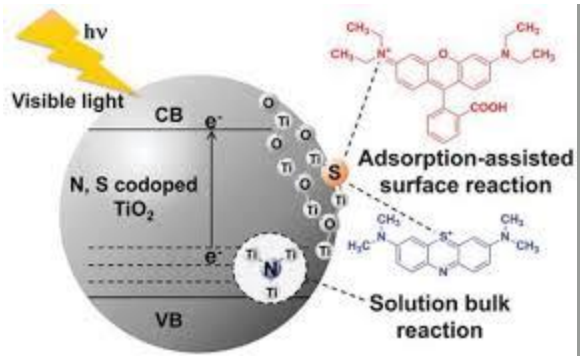


Element	Pauling scale
F	4.0
O	3.5
Cl	3.0
N	3.0
S	2.5
C	2.5
H	2.1
B	2.0
Na	0.9







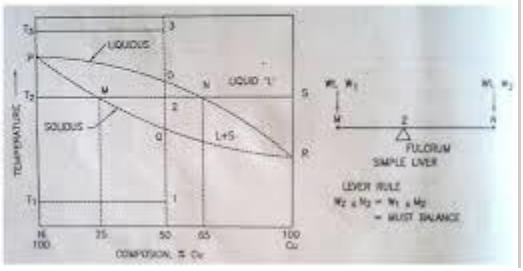


Pauling Electronegativity Values

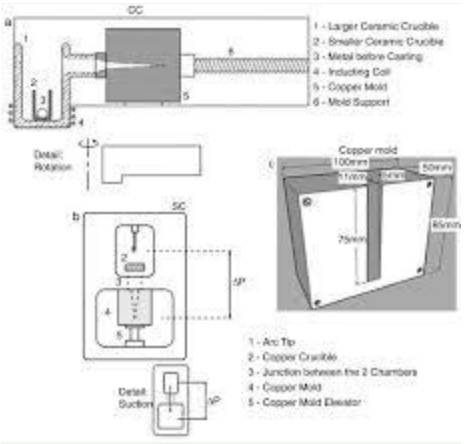
H 2.20																	
Li 0.98	Be 1.57											B 2.04	C 2.55	N 3.04	O 3.44	F 3.98	
Na 0.93	Mg 1.31											Al 1.61	Si 1.90	P 2.19	S 2.58	Cl 3.16	
K 0.82	Ca 1.00	Sc 1.36	Ti 1.54	V 1.63	Cr 1.66	Mn 1.55	Fe 1.83	Co 1.88	Ni 1.91	Cu 1.90	Zn 1.65	Ga 1.81	Ge 2.01	As 2.18	Se 2.55	Br 2.96	
Rb 0.82	Sr 0.95	Y 1.22	Zr 1.33	Nb 1.6	Mo 2.16	Tc 1.9	Ru 2.2	Rh 2.28	Pd 2.20	Ag 1.93	Cd 1.69	In 1.78	Sn 1.96	Sb 2.05	Te 2.1	I 2.66	
Cs 0.79	Ba 0.89	La 1.1	Hf 1.3	Ta 1.5	W 2.36	Re 1.9	Os 2.2	Ir 2.20	Pt 2.28	Au 2.54	Hg 2.00	Tl 1.62	Pb 2.33	Bi 2.02	Po 2.0	At 2.2	
Fr 0.7	Ra 0.9																

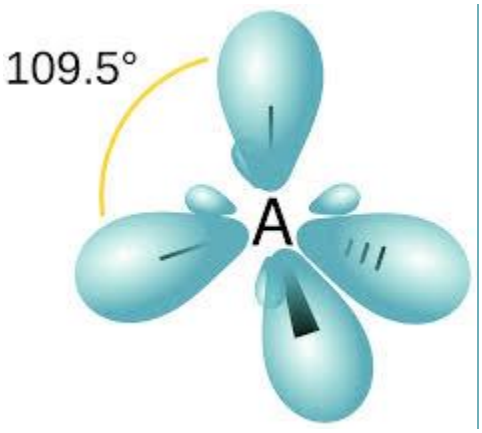
Relative amount of each phase

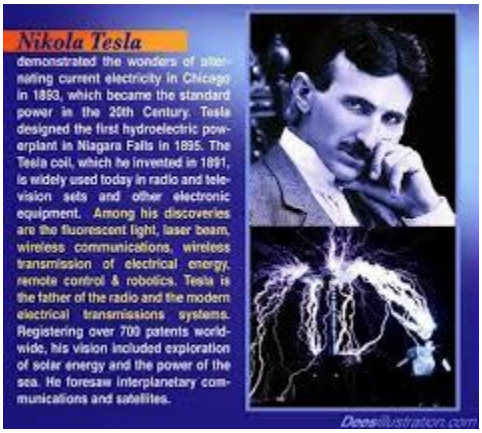
- % Liquid = (M2/MN) x 100 = [(50-25)/(65-25)] x 100 = 62.5%
- % Solid = (2N/MN) x 100 = [(65-50)/(65-25)] x 100 = 37.5%







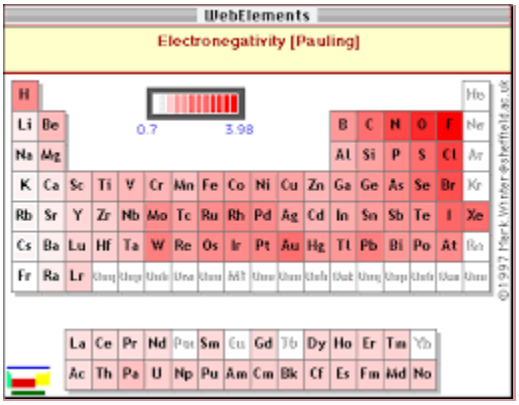


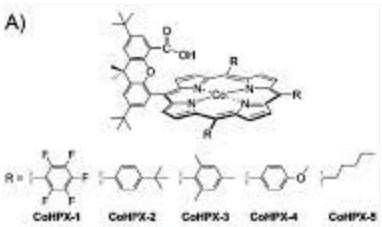


Criteria for substitutional dissolution

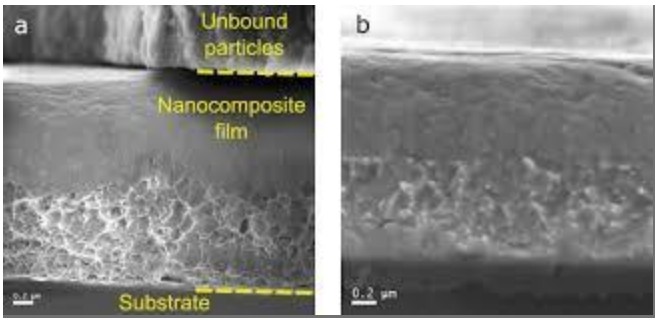
Example of Cu-Ni alloys

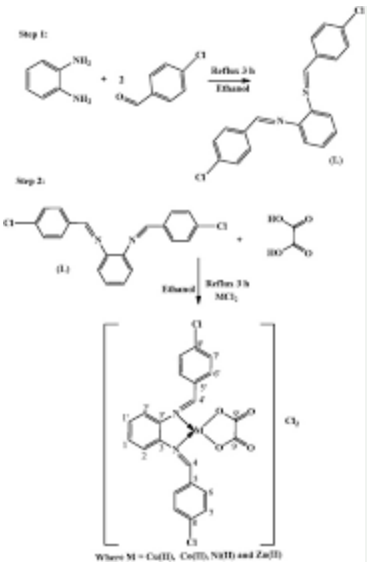
- Atomic size
 - Atomic radii are within 15% (Cu:1.28A; Ni:1.25A)
- Crystal structure
 - They have similar crystal structure (Cu:FCC; Ni:FCC)
- Electronegativity
 - Intermetallic compound will form if they are vastly differents (Cu:1.9; Ni:1.8)
- Valences
 - Metals dissolve metal of higher valence (Cu:+1; Ni:+2)

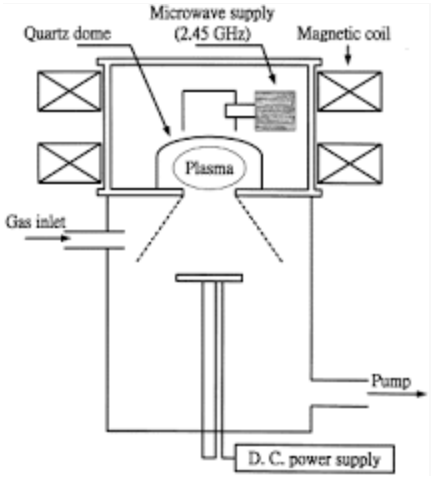


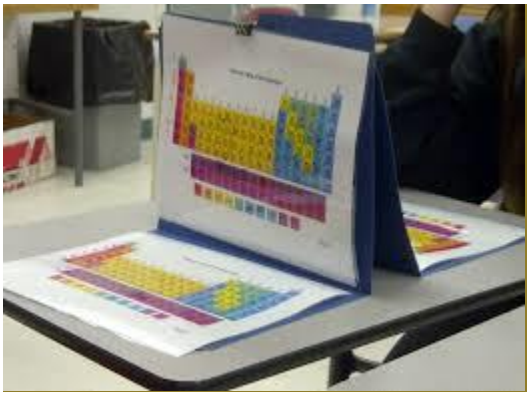






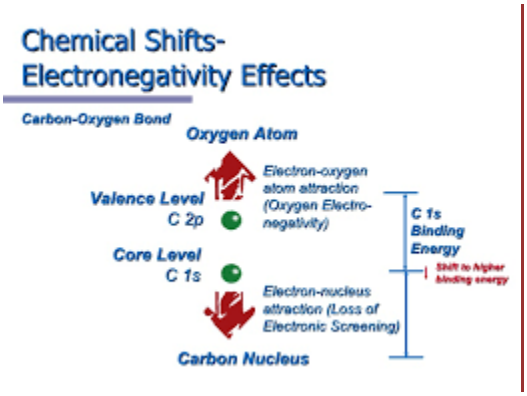




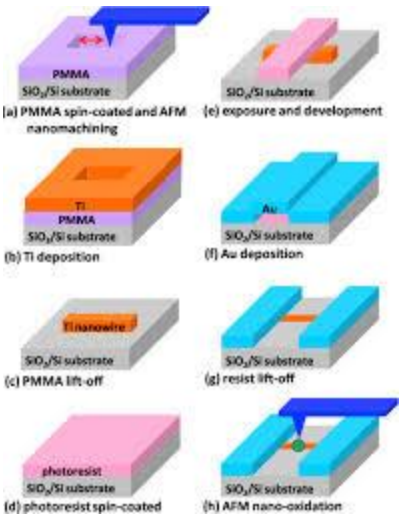




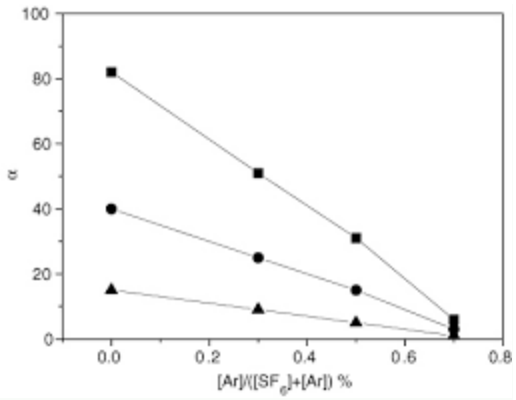
Lewis-representation	Electro-negativity	Ionic representation	Oxidation number
H–C(H)(H)–H	H= 2.1 C= 2.5	H :C(H)(H): H	H = +I C = –IV
O=O	O= 3.5	:O: :O:	O = 0
O=C=O	C= 2.5	:O: C :O:	C = +IV O = –II
H–O–H	H= 2.1 O= 3.5	H :O: H	H = +I O = –II

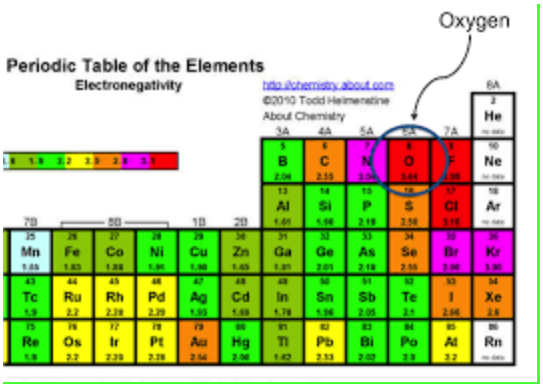


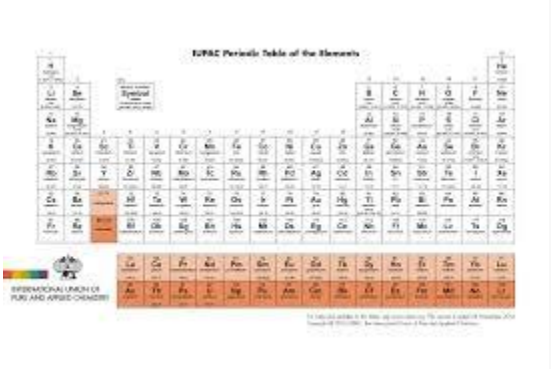


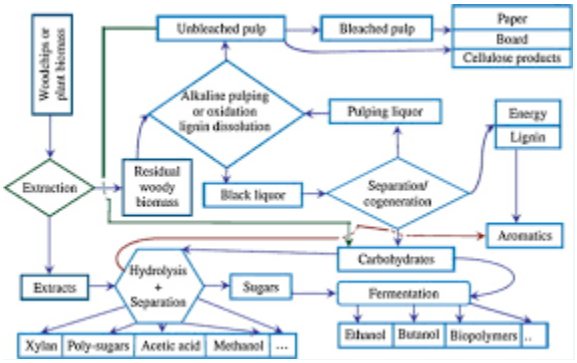












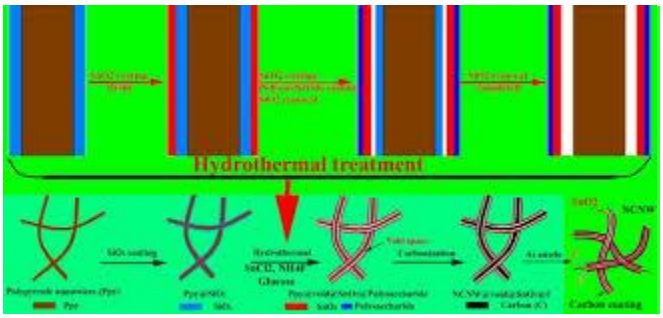
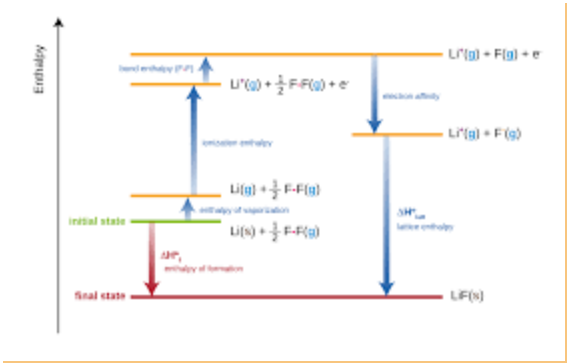
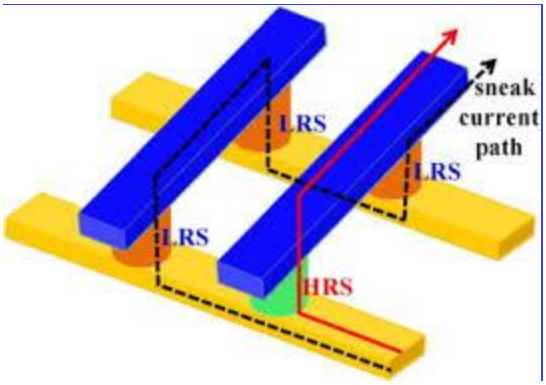


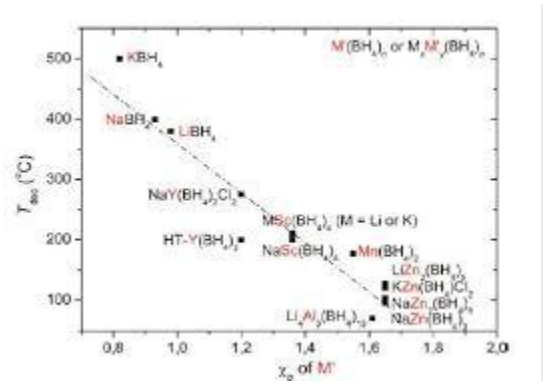
TABLE 1

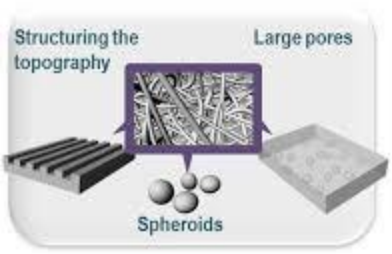
Suitable residues for amino acid substitutions

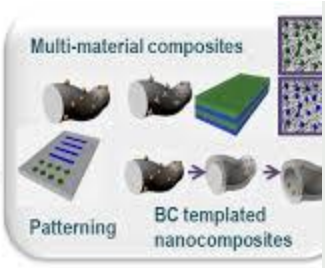
Original Residue	Exemplary Substitutions
Ala	Ser
Arg	Lys
Asn	Gln; His
Asp	Glu
Cys	Ser
Gln	Asn
Glu	Asp
Gly	Pro
His	Asn; Gln
Ile	Leu; Val
Leu	Ile; Val
Lys	Arg; Gln; Glu
Met	Leu; Ile
Phe	Met; Leu; Tyr
Ser	Thr
Thr	Ser
Trp	Tyr
Tyr	Trp; Phe
Val	Ile; Leu











5.11 Atomic radius, crystal structure, electronegativity, and the most common valence are given in the following table for several elements; for those that are nonmetals, only atomic radii are indicated.

Element	*Atomic Radius (nm)*	*Crystal Structure*	*Electronegativity*	*Valence*
Cu	0.1278	FCC	1.9	+2
C	0.071			
H	0.046			
O	0.060			
Ag	0.1445	FCC	1.9	+1
Al	0.1431	FCC	1.5	+3
Co	0.1253	HCP	1.8	+2
Cr	0.1249	BCC	1.6	+3
Fe	0.1241	BCC	1.8	+2
Ni	0.1246	FCC	1.8	+2
Pd	0.1376	FCC	2.2	+2
Pt	0.1387	FCC	2.2	+2
Zn	0.1332	HCP	1.6	+2

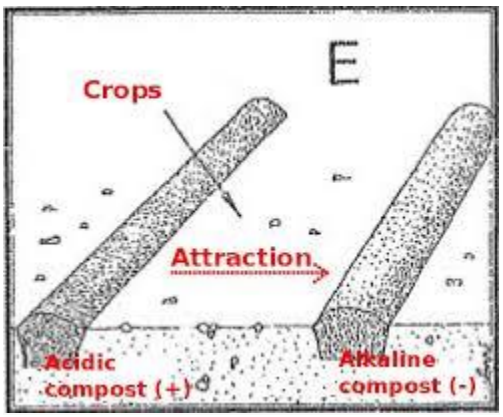
Which of those elements would you expect to form the following with copper?

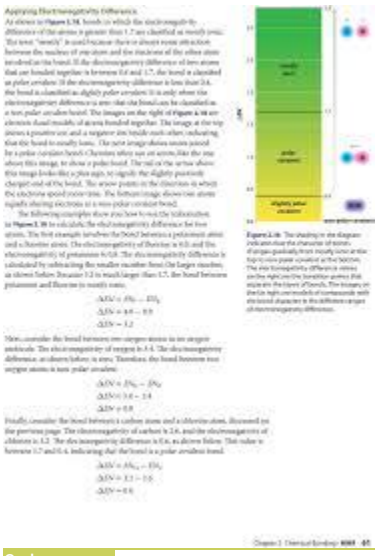
(a) A substitutional solid solution having complete solubility

(b) A substitutional solid solution of incomplete solubility

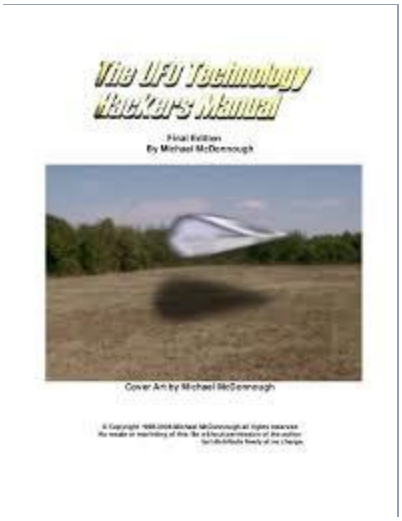
(c) An interstitial solid solution

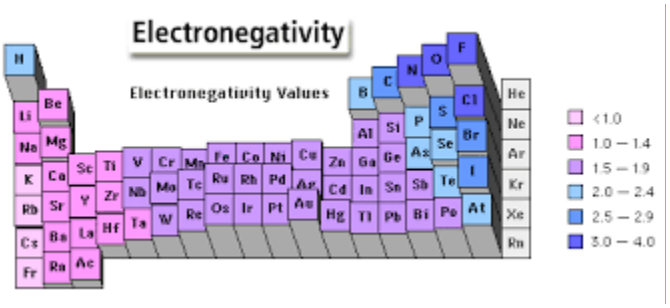


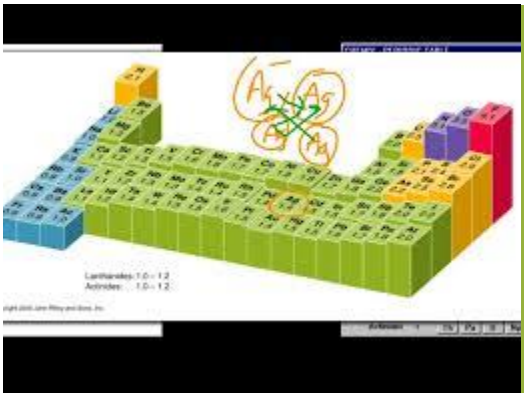




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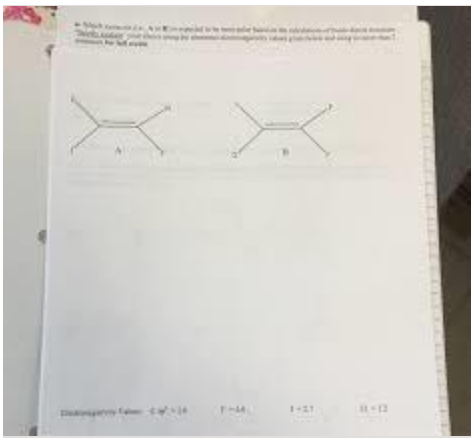




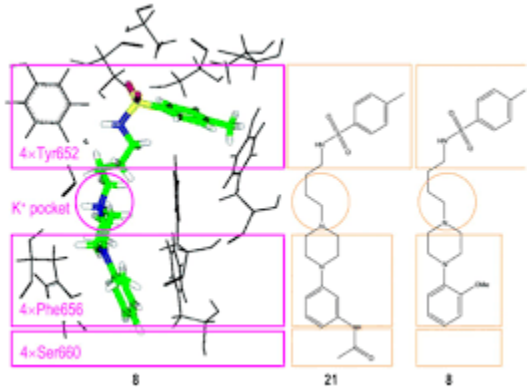
The UFO Technology Hackers Manual

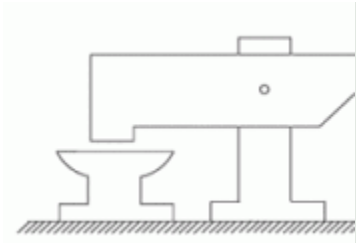
Table of Contents

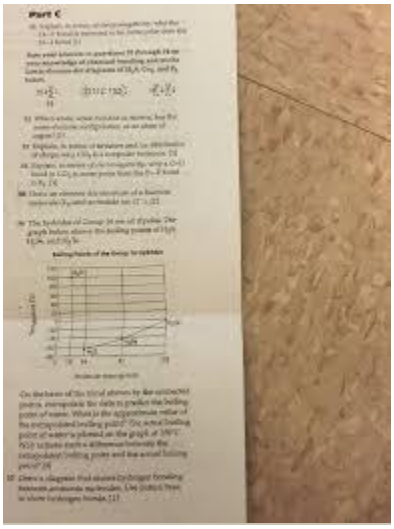
1. WHAT IT IS TO HACK
2. SOLID STATE ELECTROMAGNETIC SPACE DRIVES
3. SPACE DRIVE SYSTEMS OPTIONS
4. UFO TECHNOLOGY BACKGROUND INFO
5. TRACKING THE SUPERFAST AND RADAR INVISIBLE
6. ELECTROMAGNETIC FLUX DISPLACEMENT DETECTION
7. DEPLOYMENT OF A SENSOR GRID
8. PERSONAL OBSERVATIONS
9. SIMPLIFIED EXPLANATIONS OF THE PATENTS
10. WE COULD REALLY DODGE THE TAX MAN
11. SUCCESS WITH TERRA-FORMING
12. THE COMET CATCHER SHIP
13. USING THE DESIGNS IN COMBINATION
14. THE FEARS AND REALITIES OF THESE TECHNOLOGIES AND WHY THEY ARE PROBABLY GOING TO REMAIN SECRET
15. DIPOLAR FORCE FIELD TECHNOLOGY TEST SHIP
16. HISTORY IS NOT WHAT IT SHOULD BE

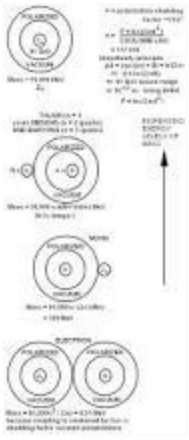


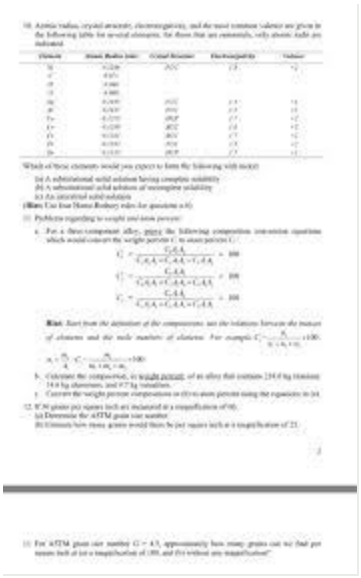




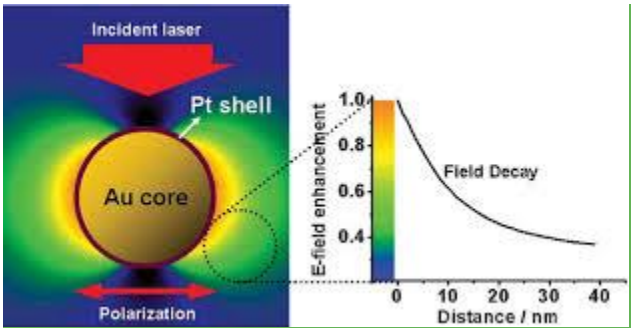


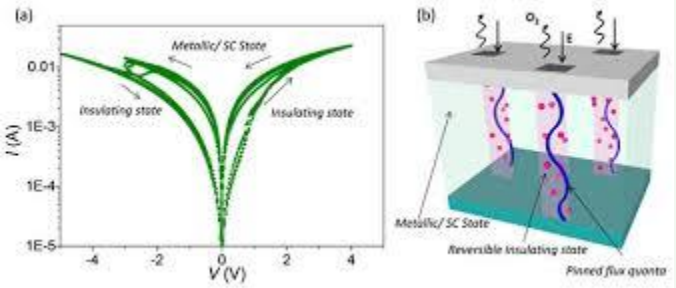




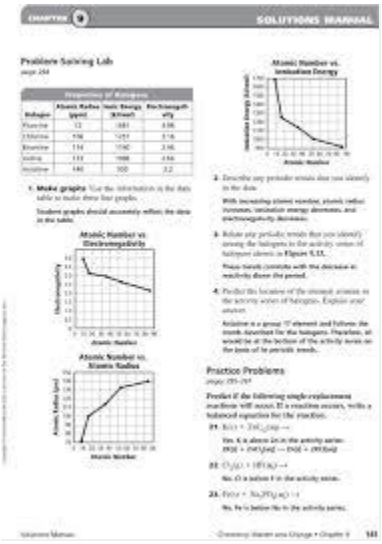


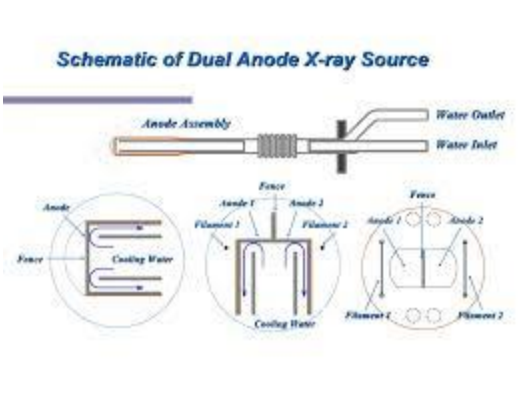


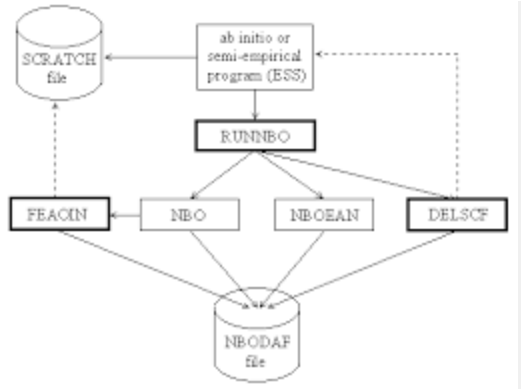








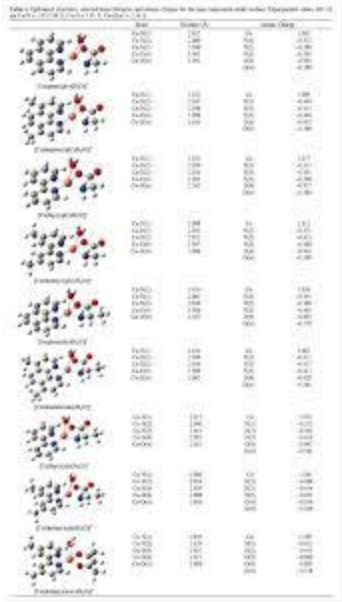


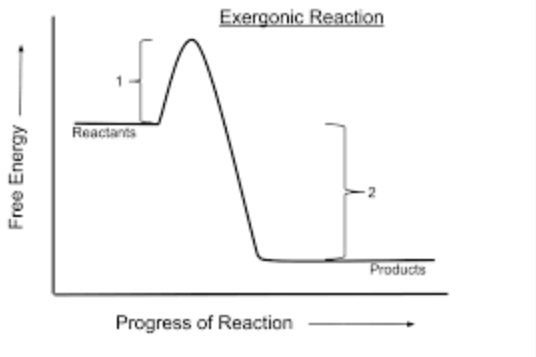


Laboratory Reports

- Each lab report in Chemistry 115 is due the laboratory after you complete the analysis of your unknown.
- Follow the format in the laboratory manual (M5-M6).
- The report must be typed or word processed.
- Deadline for Laboratory Report A
 - FRIDAY, January 11 (Week 5)

6/15/2015



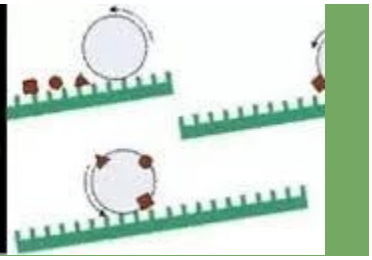


Mixed bonding (ionic + covalent)

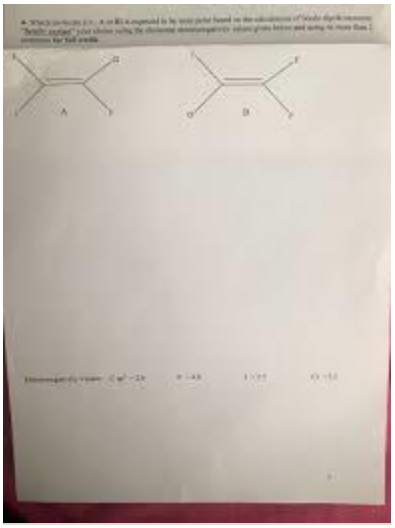
Few compounds exhibit pure ionic or pure covalent bonding. ⇨ the bond type degree depends on their position in the Periodic Table.

- **The greater the difference in electronegativity, the more ionic is the bond.**
- **Conversely, the smaller the difference, the larger is the degree of covalency.**

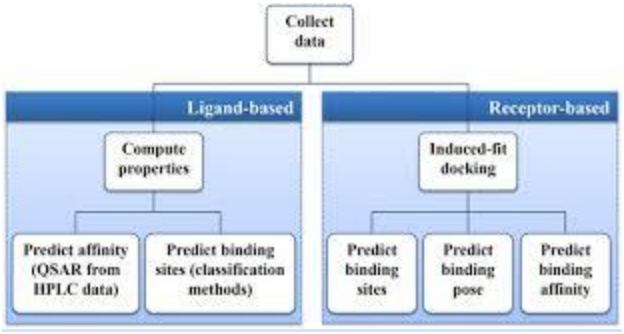




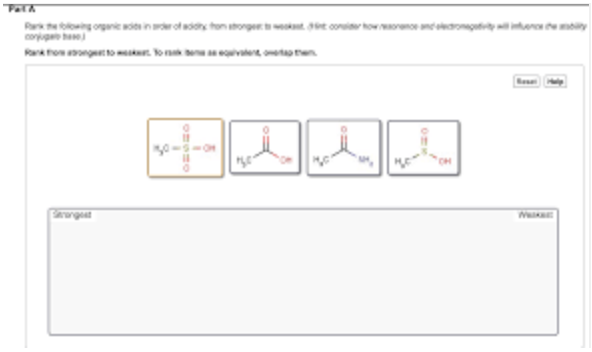
Element	*Atomic Radius (nm)*	*Crystal Structure*	*Electronegativity*	*Valence*
Ni	*0.1246*	*FCC*	*1.8*	*+2*
C	*0.071*			
H	*0.046*			
O	*0.060*			
Ag	*0.1445*	*FCC*	*1.4*	*+1*
Al	*0.1431*	*FCC*	*1.5*	*+3*
Co	*0.1253*	*HCP*	*1.7*	*+2*
Cr	*0.1249*	*BCC*	*1.6*	*+3*
Fe	*0.1241*	*BCC*	*1.7*	*+2*
Pt	*0.1387*	*FCC*	*1.5*	*+2*
Zn	*0.1332*	*HCP*	*1.7*	*+2*

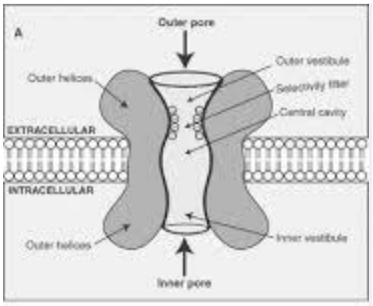


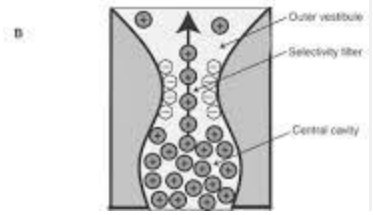


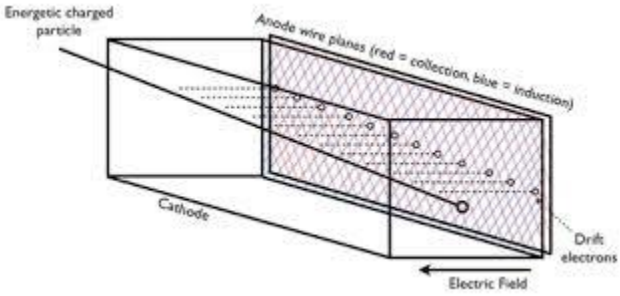


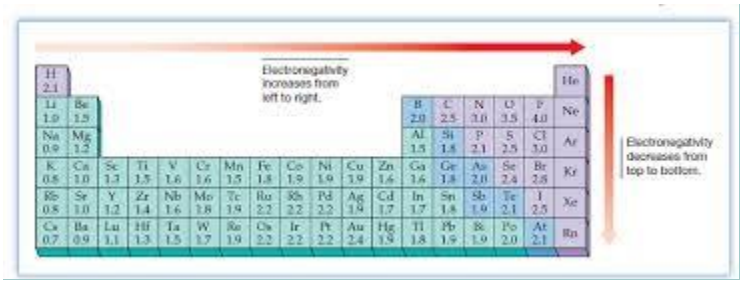








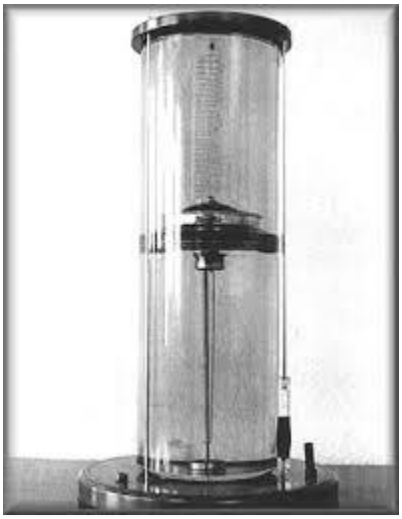


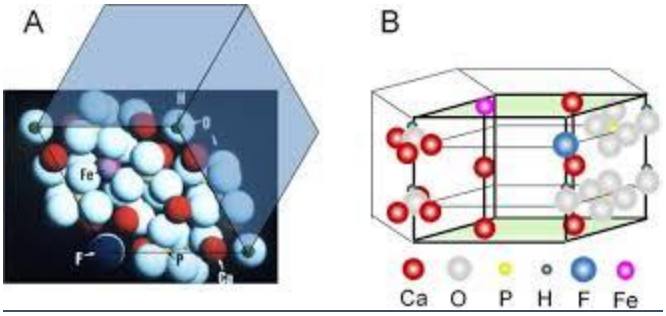


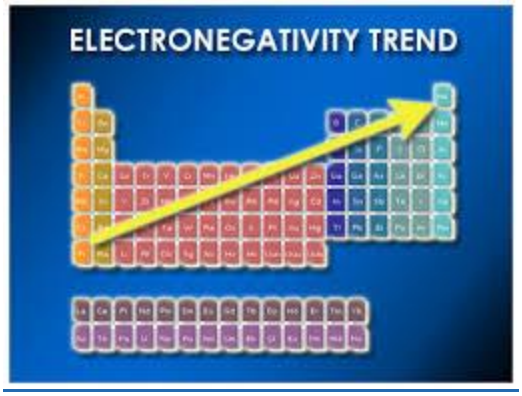
Nuclear Spin States

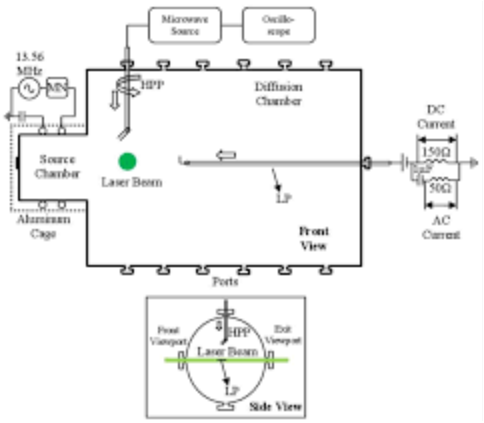
- A nucleus with spin quantum number I has $2I + 1$ spin states; if $I = 1/2$, there are two allowed spin states.
- Spin quantum numbers and allowed nuclear spin states for atoms common to organic compounds.

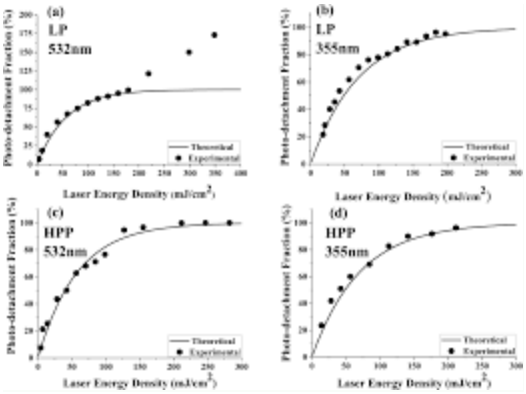
Element	^{1}H	^{2}H	^{13}C	^{14}C	^{14}N	^{15}N	^{16}O	^{19}F	^{31}P	^{32}S
Nuclear spin quantum number (I)	1/2	1	0	1/2	1	1/2	0	1/2	1/2	0
Number of spin states	2	3	1	2	3	2	1	2	2	1

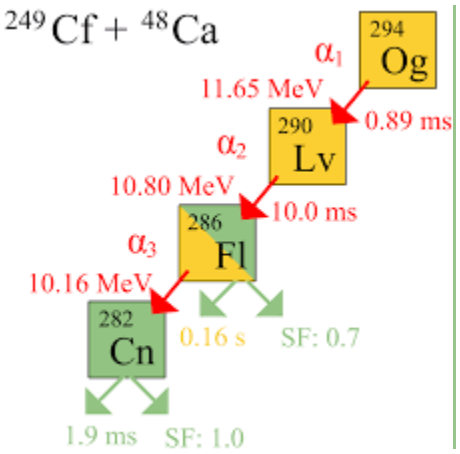




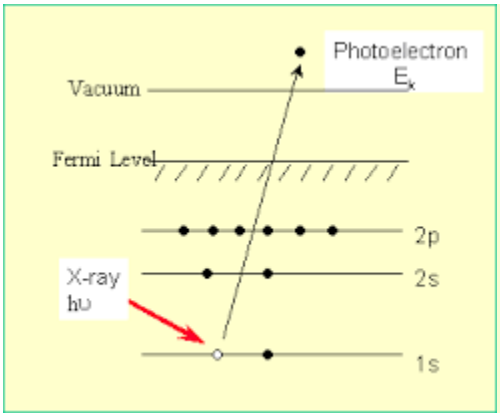



Microwave Source
Oscilloscope
13.56 MHz
HPP
Diffusion Chamber
DC Current
150Ω
50Ω
AC Current
Source Chamber
Laser Beam
LP
Aluminum Cage
Front View
Ports
Side View

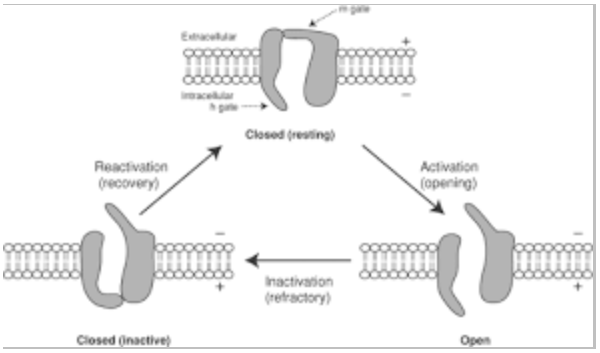

(a)
LP
532nm
(b)
LP
355nm
(c)
HPP
532nm
(d)
HPP
355nm
Photo-detachment Fraction (%)
Laser Energy Density (mJ/cm²)
Theoretical
Experimental

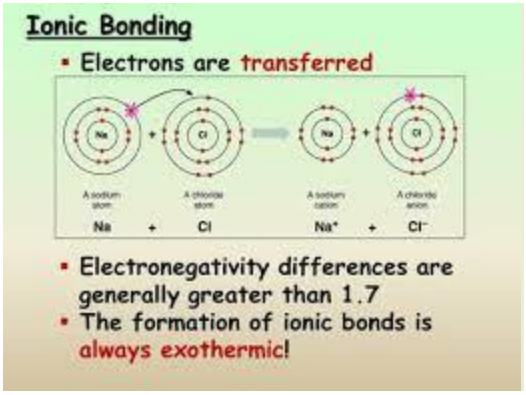

249 Cf + 48 Ca
294 Og
α1
11.65 MeV
0.89 ms
290 Lv
α2
10.80 MeV
10.0 ms
286 Fl
α3
10.16 MeV
282 Cn
0.16 s
SF: 0.7
1.9 ms
SF: 1.0

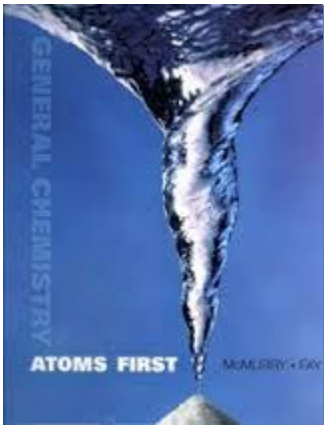


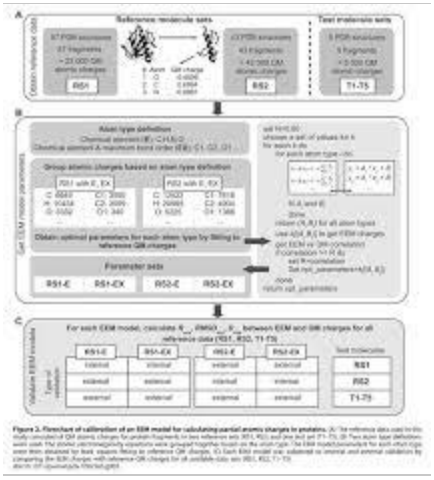

Photoelectron
Ex
Vacuum
Fermi Level
2p
2s
X-ray
hυ
1s


Laboratory Manual
PHYSICS


m gate
Extracellular
Intracellular
h gate
Closed (resting)
Reactivation
(recovery)
Activation
(opening)
Inactivation
(refractory)
Closed (inactive)
Open

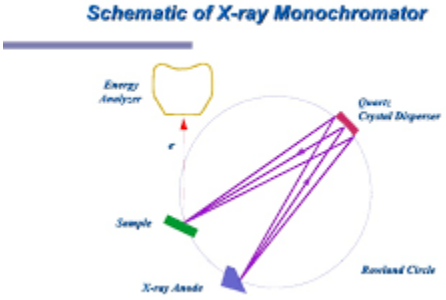

Ionic Bonding
Electrons are transferred
Na
Cl
Na+
Cl−
Electronegativity differences are generally greater than 1.7
The formation of ionic bonds is always exothermic!

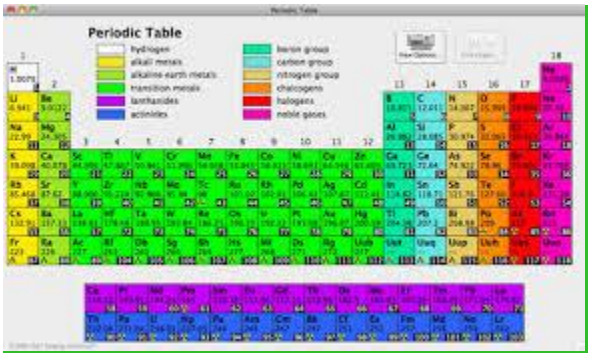

GENERAL CHEMISTRY
ATOMS FIRST

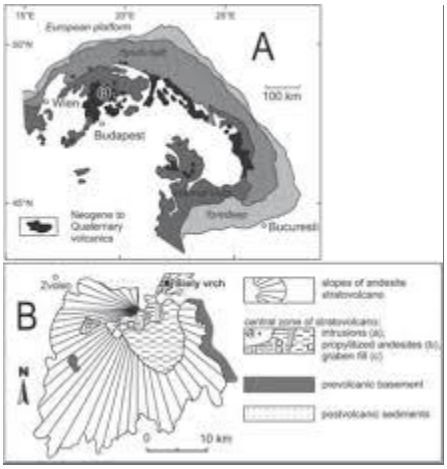


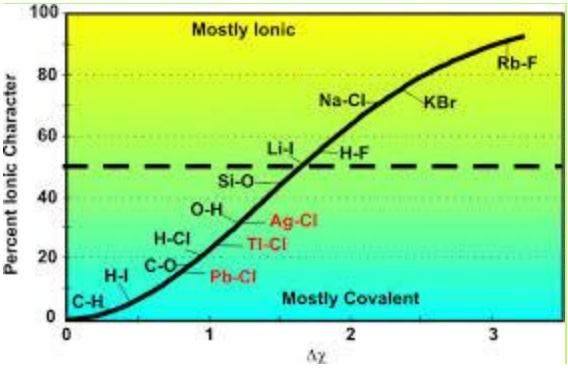












Original residue	Exemplary substitutions
Ala	Ser
Arg	Lys
Asn	Gln; His
Asp	Glu
Cys	Ser
Gln	Asn; Glu
Glu	Asp
Gly	Pro
His	Asn; Gln
Ile	Leu; Val
Leu	Ile; Val
Lys	Arg; Gln; Glu
Met	Leu; Ile; Val
Phe	Met; Leu; Tyr
Ser	Thr
Thr	Ser
Trp	Tyr
Tyr	Trp; Phe
Val	Ile; Leu; Met



TRENDS IN THE PERIODIC TABLE

Objectives: the student will be able to

a) define some of the basic properties of the periodic table,
b) graph these properties of the elements (especially the first 20)
c) determine the important trends (patterns) on the periodic table.

Procedure

1. Define the following terms:
 a) First ionization energy
 b) Atomic Radius
 c) Electronegativity
 d) Atomic Number

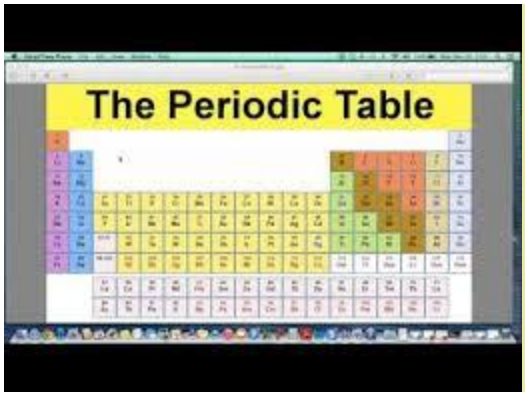
2. Obtain 3 pieces of graph paper from your favorite chemistry teacher.

3. On the first piece, plot a graph of ionization energy (y axis) vs. atomic number (x axis). Connect successive dots with straight lines.

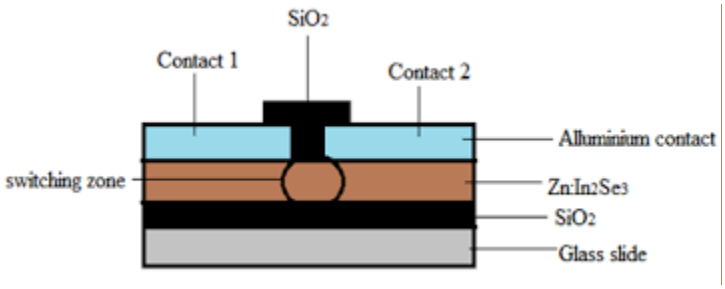
4. On the second piece of graph paper, plot a separate graph of atomic radius (y axis) vs. atomic number (x axis). Connect successive dots with straight lines.

5. On the third piece of graph paper, plot a separate graph of electronegativity (y axis) vs. atomic number (x axis). Connect successive dots with straight lines.

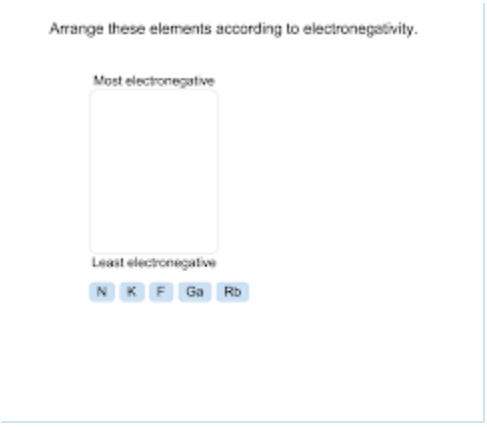
ATOMIC NUMBER	ATOMIC SYMBOL	FIRST IONIZATION ENERGY(kJ/MOL)	ATOMIC RADIUS(PM)	ELECTRONEGATIVITY

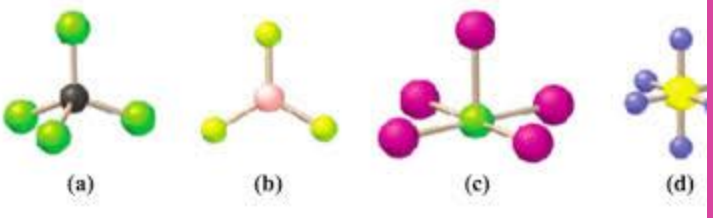


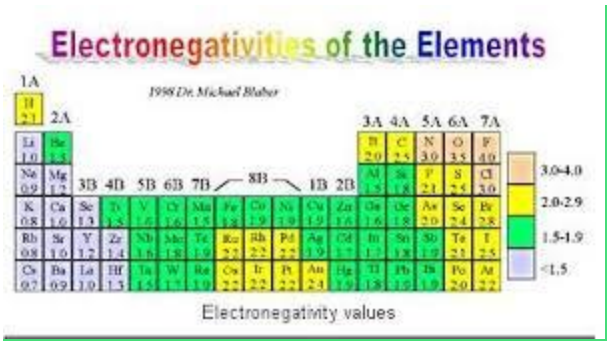


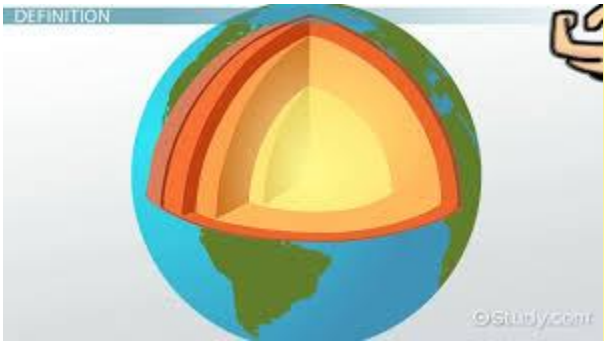


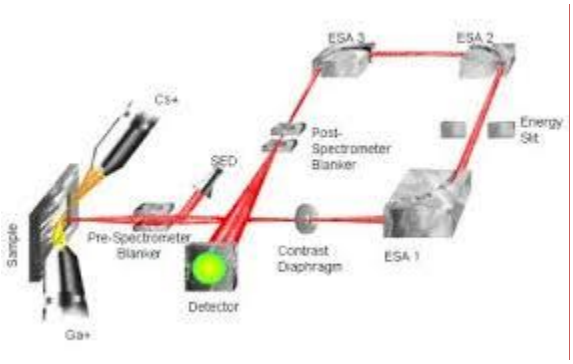


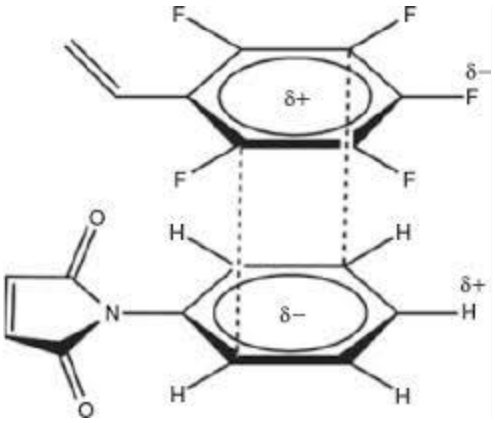


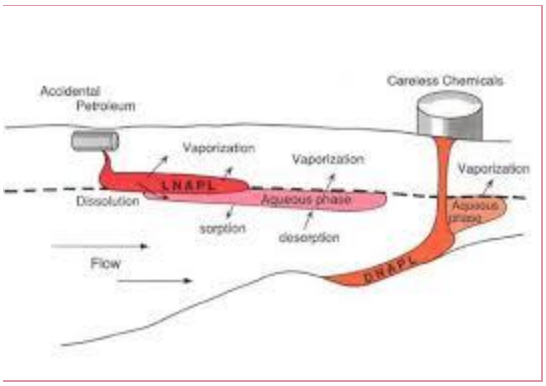


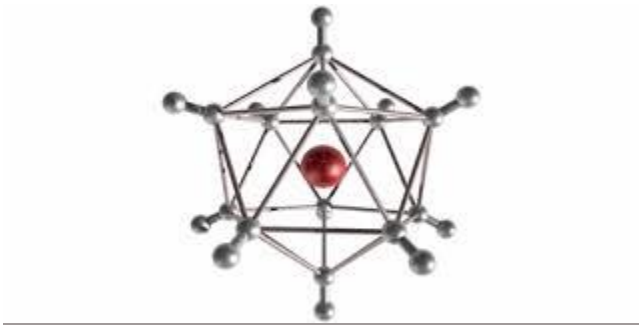


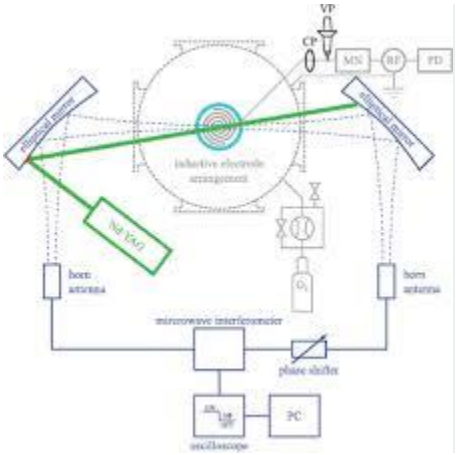


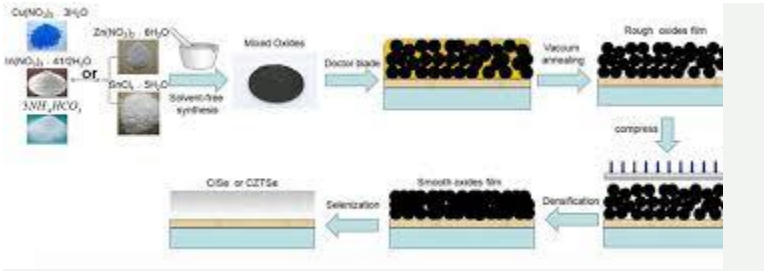


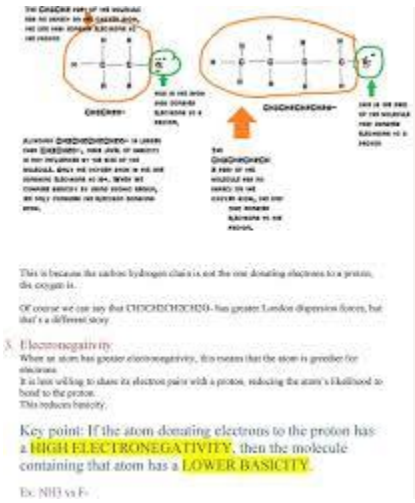

F
F
δ+
δ−
F
F
F
O
H
H
δ+
N
δ−
H
H
H
O

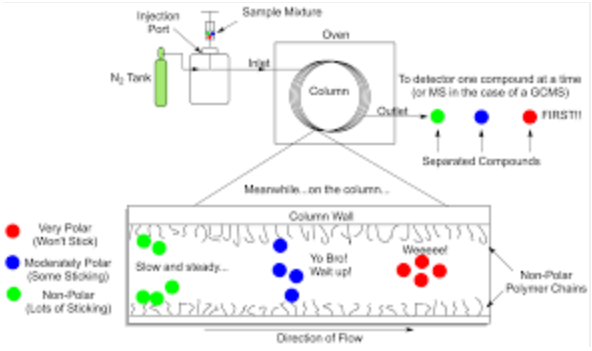

Careless Chemicals
Accidental Petroleum
Vaporization
Vaporization
Vaporization
LNAPL
Dissolution
Aqueous phase
Aqueous phase
sorption
desorption
Flow
DNAPL

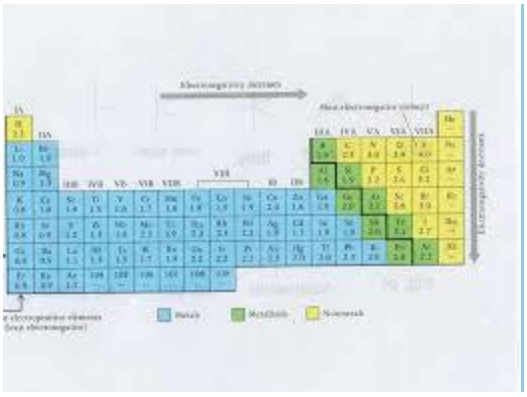



VP
CP
MS
RF
PD
ellipsoidal mirror
ellipsoidal mirror
inductive electrode arrangement
N2 TWA
horn antenna
horn antenna
microwave interferometer
phase shifter
PC
oscilloscope

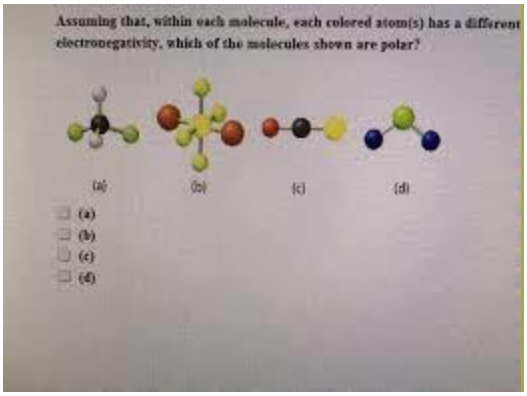

Cu(NO3)2 · 3H2O
Zn(NO3)2 · 6H2O
In(NO3)3 · 4.5H2O
or
SnCl4 · 5H2O
SNH4HCO3
Solvent-free synthesis
Mixed Oxides
Doctor blade
Vacuum annealing
Rough oxides film
compress
CISe or CZTSe
Selenization
Smooth oxides film
Densification


This is because the carbon hydrogen chain is not the one donating electrons to a proton, the oxygen is.
Of course we can say that CH3CH2CH2CH2O- has greater London dispersion forces, but that's a different story.
3. Electronegativity
Where an atom has greater electronegativity, this means that the atom is greedier for electrons.
It is less willing to share its electron pairs with a proton, reducing the atom's likelihood to bond to the proton.
This reduces basicity.
Key point: If the atom donating electrons to the proton has a HIGH ELECTRONEGATIVITY, then the molecule containing that atom has a LOWER BASICITY.
Ex. NH3 vs F-


Injection Port
Sample Mixture
Oven
N2 Tank
Inlet
Column
Outlet
To detector one compound at a time (or MS in the case of a GCMS)
FIRST!!
Separated Compounds
Meanwhile...on the column...
Column Wall
Very Polar (Won't Stick)
Moderately Polar (Some Sticking)
Non-Polar (Lots of Sticking)
Slow and steady...
Yo Bro! Wait up!
Weeeee!
Non-Polar Polymer Chains
Direction of Flow







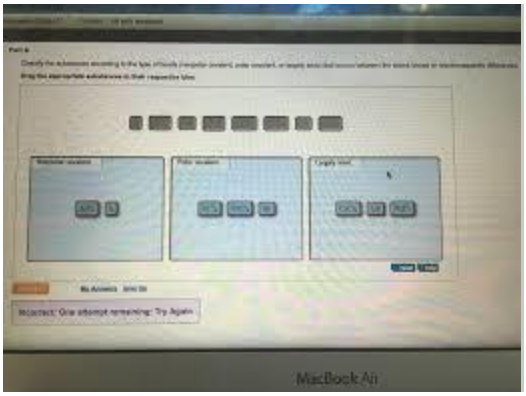


TABLE 1
Primary Reaction

$$H_2O_2 + X^- + H^+ \rightarrow XPOH \rightarrow H_2O_2 + HOX + \Delta G_1$$

	volts		volts		volts	kcal mol^{-1}
pH	$E_{H_2O_2}$	-	E_{Cl^-}	=	ΔE_1	(ΔG_1)
4	1.5396	-	1.3760	=	0.1636	(-7.53)
5	1.4885	-	1.3485	=	0.1240	(-6.16)
6	1.4214	-	1.3170	=	0.1044	(-4.88)
7	1.3623	-	1.2875	=	0.0748	(-3.44)
8	1.3032	-	1.2580	=	0.0452	(-2.08)
pH	$E_{H_2O_2}$	-	E_{Br^-}	=	ΔE_1	(ΔG_1)
4	1.5396	-	1.2150	=	0.3246	(-15.02)
5	1.4885	-	1.1855	=	0.2970	(-13.66)
6	1.4214	-	1.1540	=	0.2674	(-12.38)
7	1.3623	-	1.1245	=	0.2378	(-10.94)
8	1.3032	-	1.0950	=	0.2082	(- 9.58)
pH	$E_{H_2O_2}$	-	E_{I^-}	=	ΔE_1	(ΔG_1)
4	1.5396	-	0.8690	=	0.6706	(-30.85)
5	1.4885	-	0.8295	=	0.6410	(-29.49)
6	1.4214	-	0.8100	=	0.6114	(-28.12)
7	1.3623	-	0.7805	=	0.5818	(-26.76)
8	1.3032	-	0.7510	=	0.5522	(-25.40)

Values calculated from the data of Pourbaix, 1966, *Atlas of Electrochemical Equilibria in Aqueous Solutions*, Pergamon Press, p. 644.



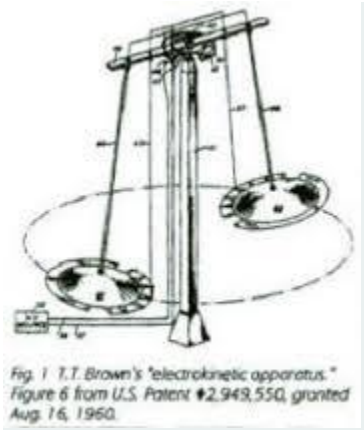
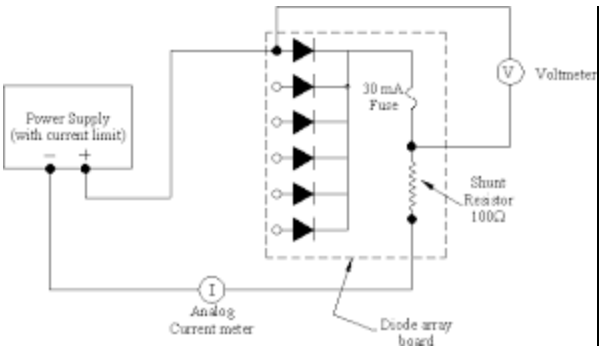


Fig. 1 T.T. Brown's "electrokinetic apparatus." Figure 6 from U.S. Patent #2,949,550, granted Aug. 16, 1960.





Electron densities offer a very useful clue to the reactivity of a molecule

Two tools to determine electron densities:

- Apply **electronegativities** *example:*

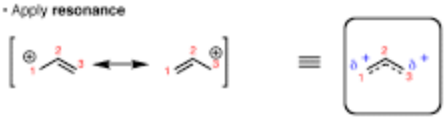


Electronegativities:
O : 3.5
C : 2.5
H : 2.2

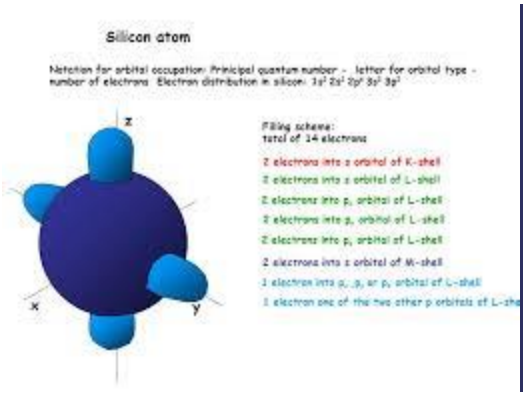
The oxygen will have a high electron density (partial negative charge) due to its higher electronegativity (3.5) relative to carbon (2.5) and hydrogen (2.2)

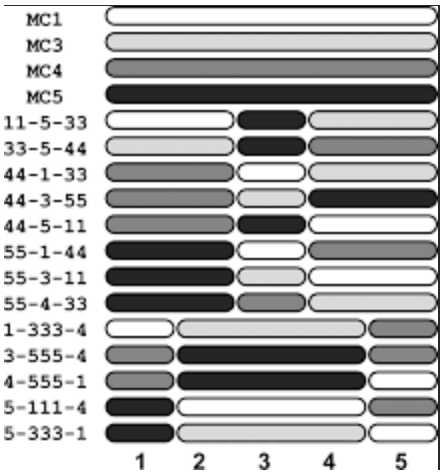
(the formal charge of +1 on oxygen does **not** represent electron density!)

- Apply **resonance**

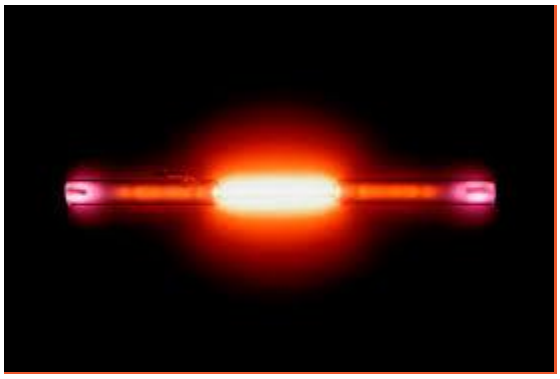


Together, these two tools tell you the electron densities, which will be *very* helpful for figuring out reactivity





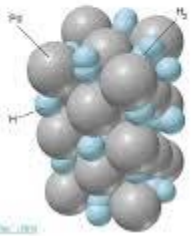
Molecules	E_{HOMO}	E_{LUMO}	$E_{HOMO-LUMO}$	χ	μ	η	S
3a	−5.9329	−1.8373	−4.0956	3.8851	−3.8851	2.0478	0.244
3b	−6.0007	−1.9739	−4.0268	3.9873	−3.9873	2.0134	0.248
I	−5.4306	0.0909	−5.5215	2.6699	−2.6699	2.7608	0.181
II	−6.2203	−2.0147	−4.2056	4.1175	−4.1175	2.1028	0.237
III	−6.8794	−2.8744	−4.0050	4.8769	−4.8769	2.0025	0.249
4A	−4.6989	−0.6329	−4.0660	2.6659	−2.6659	2.0330	0.245
4B	−5.2137	−1.7777	−3.4360	3.4957	−3.4957	1.7180	0.291
4C	−5.4739	−2.4942	−2.9797	3.9841	−3.9841	1.4898	0.335
4D	−5.5640	−2.5255	−3.0384	4.0447	−4.0447	1.5192	0.329

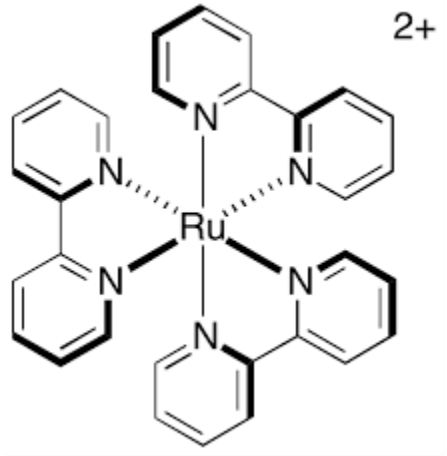


5.4 Impurities in Solids

Solid Solutions:
- Substitutional
- replacement of ions
- Interstitial
 filling of voids
- Dependent on:
 - Atomic size factor
 - Crystal Structure
 - Electronegativity
 - Valences

Impurities in Ceramics
- Both types as well Can occur for the cations or for the anions
- Usually both occur at same time (one cation + one anion).





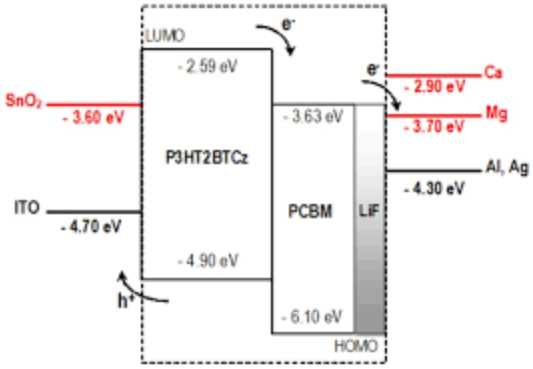


TABLE I
Primary Reaction

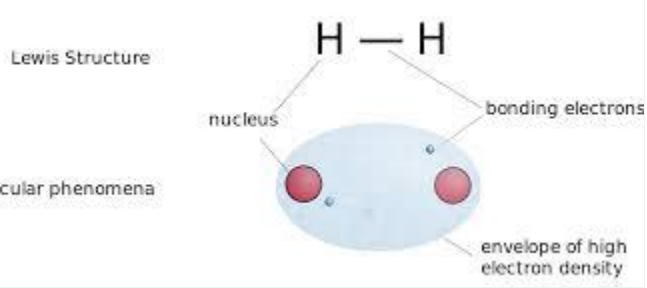
$H_2O_2 + X^- + H^+ \rightarrow (XHO) \rightarrow H_2O + HOX + \Delta G_1$

pH	volts $E_{H_2O_2}$	-	volts E_{Cl^-}	=	volts ΔE_1	kcal mol^{-1} (ΔG_1)
4	1.5296	-	1.3760	=	0.1536	(-7.52)
5	1.4805	-	1.3665	=	0.1140	(-6.16)
6	1.4214	-	1.3179	=	0.1044	(-4.86)
7	1.3623	-	1.2875	=	0.0748	(-3.44)
8	1.3032	-	1.2569	=	0.0463	(-2.08)

pH	volts $E_{H_2O_2}$	-	volts E_{Br^-}	=	volts ΔE_1	kcal mol^{-1} (ΔG_1)
4	1.5296	-	1.2130	=	0.3266	(-15.00)
5	1.4805	-	1.1835	=	0.2970	(-13.66)
6	1.4214	-	1.1540	=	0.2674	(-12.30)
7	1.3623	-	1.1245	=	0.2378	(-10.94)
8	1.3032	-	1.0950	=	0.2082	(- 9.58)

pH	volts $E_{H_2O_2}$	-	volts E_I^-	=	volts ΔE_1	kcal mol^{-1} (ΔG_1)
4	1.5296	-	0.8600	=	0.6706	(-30.85)
5	1.4805	-	0.8395	=	0.6410	(-29.49)
6	1.4214	-	0.8100	=	0.6114	(-28.13)
7	1.3623	-	0.7805	=	0.5818	(-26.76)
8	1.3032	-	0.7510	=	0.5522	(-25.40)

Values calculated from the data of Pourbaix, 1966. *Atlas of Electrochemical Equilibria in Aqueous Solutions*. Pergamon Press, p. 644.





Percent Ionic and Covalent Character

Chemists have devised another approach for describing the bond character, using percentages of either ionic or covalent character. Table 2.1 relates electronegativity differences to percent ionic character and percent covalent character. In the following activity, you will analyze the relationship between electronegativity differences and percent ionic character.

Table 2.1 Character of Bonds

Electronegativity Difference	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20
Percent Ionic Character	0	4	16	26	45	55	70	78	85	91	96	99
Percent Covalent Character	100	96	84	74	55	45	30	22	15	9	4	1

Classifying bond type is not always simple. The bond between a hydrogen atom and a chlorine atom provides a good example of overlap in ionic character and covalent character. The electronegativity difference for hydrogen and chlorine is 1.0, placing it in the polar covalent category. As a gas, the compound behaves as a polar molecule. When the compound is dissolved in water, however, the atoms become separated, both surrounded by water molecules. Thus, the bond type of this compound varies, depending on whether it is a gas or dissolved in a solvent. Figure 2.19 shows Lewis diagrams for the two states.

Figure 2.19 The electronegativity difference for hydrogen and chlorine indicates that a bond between these atoms results in a polar covalent molecule when HCl is in a gaseous state. But interaction with water molecules causes HCl to behave as an ionic compound.

HCl in gaseous state

HCl dissolved in water

Activity 2.2 Electronegativity Difference versus Percent Ionic Character

Why did we bother drawing the electronegativity difference in Steps 4 and 5? For the molecules' atoms to slightly polar covalent, polar covalent, and ionic bonds? Studying the relationship between electronegativity differences and percent ionic character in this activity will help you understand the reasons behind the choice of these values.

Materials

- graph paper
- ruler
- pencil

Procedure

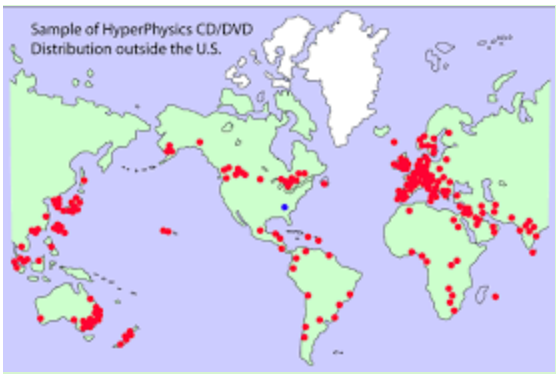
1. Construct a graph using the data in the first two rows of Table 2.1. Put electronegativity difference on the x-axis and percent ionic character on the y-axis. Choose scales for the axes that will make the graph take up more than half of a sheet of graph paper.
2. After you plot all the points, draw a smooth, curved line of best fit through the points.
3. Draw a straight, vertical line on the graph through the point where the electronegativity difference is 1.7, as the point at which the shift is at first. To scale the curve, draw a horizontal line across the graph. Record the value of the percent ionic character at the point where your horizontal line and the line meet.
4. Repeat step 3 for two more values where the electronegativity difference is 0.4.

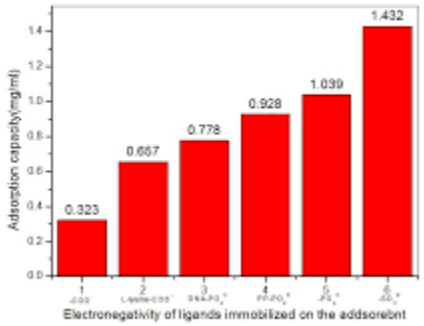
Questions

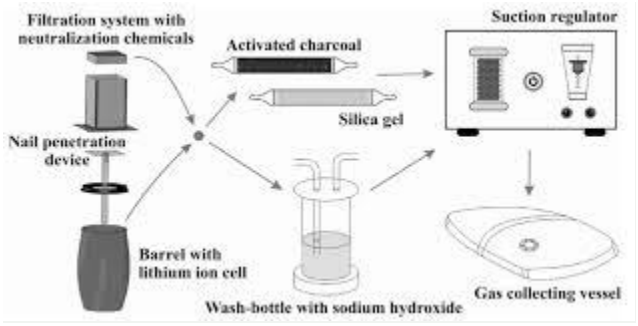
1. What is the percent ionic character when the electronegativity difference is 1.7? Do you think this is a reasonable value for the transition point between polar covalent and ionic bonds? Explain your reasoning.
2. What is the percent ionic character when the electronegativity difference is 0.4? Do you think this is a reasonable value for the transition point between polar covalent and slightly polar covalent bonds? Explain your reasoning.
3. Why do you think it was important to make your graph spread out to more than half of the sheet of graph paper?
4. Imagine that you were to draw a graph of percent covalent character versus electronegativity difference. Predict the values of percent covalent character that you would find when the electronegativity differences are 0.4 and 1.7. Explain why you made your choice of these values.

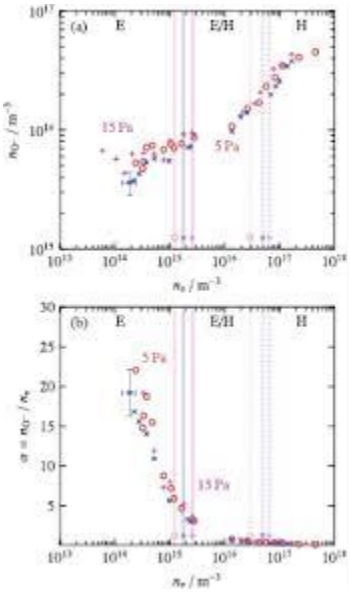
42 Unit 1 Matter, Chemical Trends, and Chemical Bonding

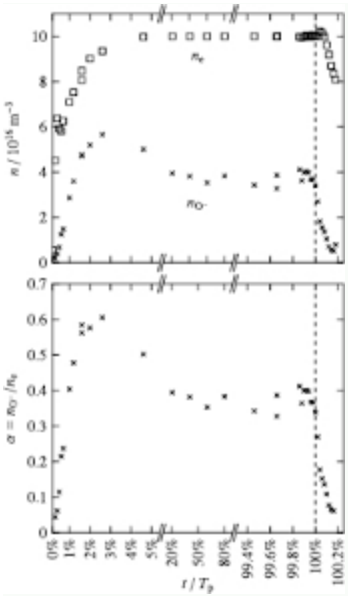














The Importance of Electronegativity in Bond Formation

Based on what you just learned about ionic bonds and covalent bonds, you might reconsider that very few separate and distinct types of interactions between atoms. However, like ionic bonds, covalent bonds also involve electrostatic attractions between positively charged nuclei and negatively charged electrons. To understand how electrostatic attractions influence the nature of bonds, recall the concept of electronegativity, which you learned about in Chapter 3.

Electronegativity is an indicator of the relative ability of an atom of a given element to attract shared electrons. Shared electrons contribute a covalent bond. Thus, the relative electronegativities of the elements of the two atoms that are bonded together should provide information about the nature of the bond. Although Lewis diagrams are drawn as though no electrons are shared between two nuclei in ionic compounds, the positively charged nucleus of each ion is attracting the negatively charged electrons of the other ion. Thus, the concept of electronegativity also applies to ionic compounds.

Electronegativity Difference and Bond Type

What do the relative electronegativities of elements tell you about the nature of bonds? If the electronegativity of one of the two atoms that are bonded together is greater than the electronegativity of the other atom, the electrons will be attracted more strongly to the first atom. In general, electrons spend more time around the atoms with the greater electronegativity.

Figure 3.17 illustrates a bond between a carbon atom and a chlorine atom. Of course, the carbon atom is bonded to other atoms as well as the chlorine atom. The electronegativity of the chlorine atom (3.2) is higher than the electronegativity of the carbon atom (2.6). The arrow indicates that the shared electrons are more strongly attracted to the chlorine atom, and thus spend more time there. The Greek letter delta, δ, is often used to represent "partial." Therefore, the symbols δ+ and δ− indicate that the carbon atom is partially positively charged and the chlorine atom is partially negatively charged.

Figure 3.17 Because the shared electrons in this bond spend more time near the chlorine nucleus, the chlorine atom is slightly negatively charged. This leaves the carbon atom slightly positively charged.

polar covalent bond a covalent bond in which one of the bonded atoms has a greater share of the electrons, resulting in one end slightly positively charged and the other slightly negatively charged

electronegativity difference the difference between the electronegativities of two atoms

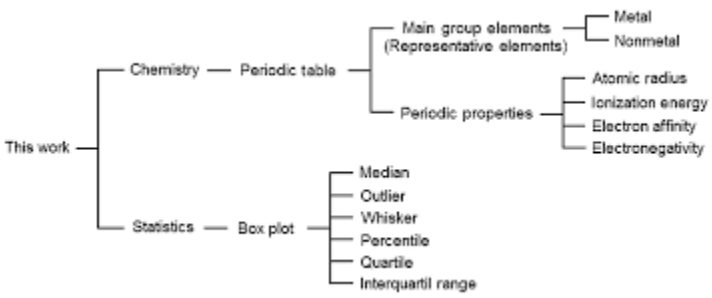
Covalent bonds, in which the electron distribution is unequal, are called **polar covalent bonds**. These bonds are often referred to simply as polar bonds. Because these bonds have a positive "pole" and a negative "pole," they are sometimes also called *bond dipoles*. Depending on the difference in the electronegativities of the bonded atoms, some covalent bonds are only slightly polar, while others are extremely polar. Chemists have defined a system for quantifying the extent of the polarity of the bonds by calculating the **electronegativity difference** (ΔEN) for the two elements involved in the bond. You can calculate the electronegativity difference for any two elements by finding the electronegativity of each element in a table, such as the one in Figure 3.20 on page 86, and then subtracting the smaller electronegativity from the larger electronegativity.

82 Unit 1 Atoms, Chemical Bonds, and Chemical Reactions

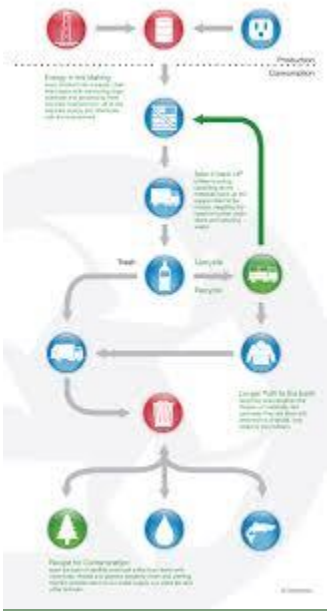


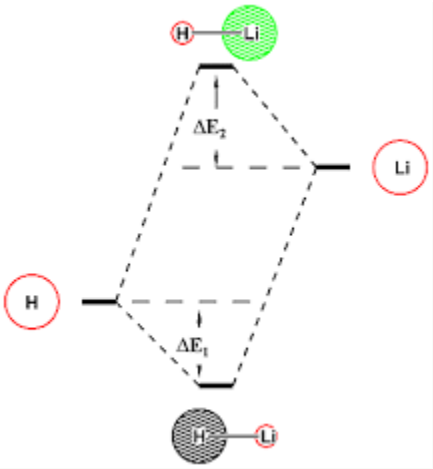
1 - Polarity
2 - Effective solvent
3 - High heat of vaporization and high specific heat
4 - Properties of water molecules
5 - Polar covalent bonds
6 - Unequal sharing of electrons
7 - Less dense as a solid
8 - High electronegativity of oxygen
9 - High energy input to break bonds
10 - Hydrogen bonding between water and other polar molecules

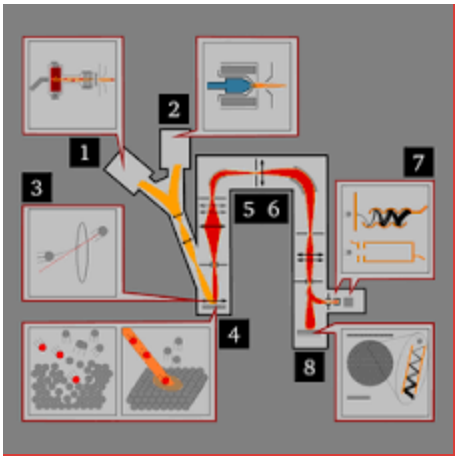
Label the diagram by dragging the labels to the appropriate targets.



This work
- Chemistry — Periodic table
 - Main group elements (Representative elements)
 - Metal
 - Nonmetal
 - Periodic properties
 - Atomic radius
 - Ionization energy
 - Electron affinity
 - Electronegativity
- Statistics — Box plot
 - Median
 - Outlier
 - Whisker
 - Percentile
 - Quartile
 - Interquartil range







South Pasadena • Chemistry

Name _____
Period ___ Date ___

8 • Why Do Hot Air Balloons Float?

THE COMBINED GAS LAW

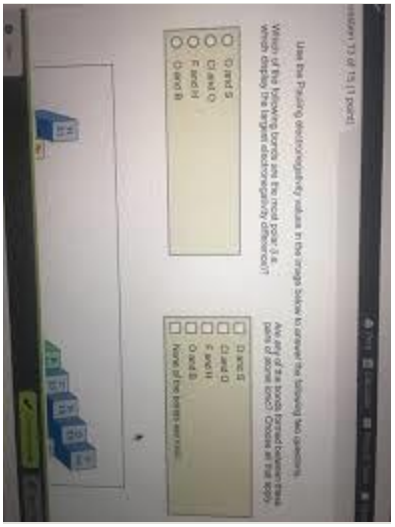
In practical terms, it is often difficult to hold any of the variables constant. When there is a change in pressure, volume and temperature, the combined gas law is used. *Show work on another sheet of paper for credit.*

$$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2} \quad \text{or} \quad P_1 \times V_1 \times T_2 = P_2 \times V_2 \times T_1$$

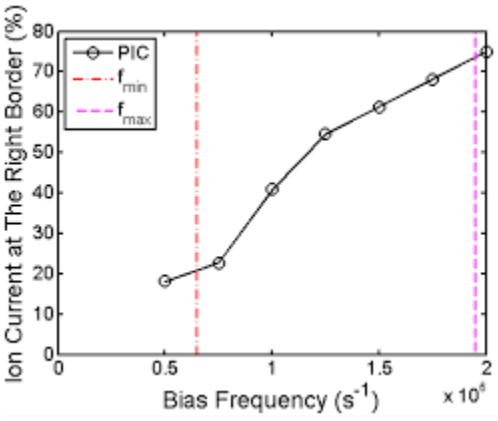
K = °C + 273

Complete the following chart. *SEE attached paper.*

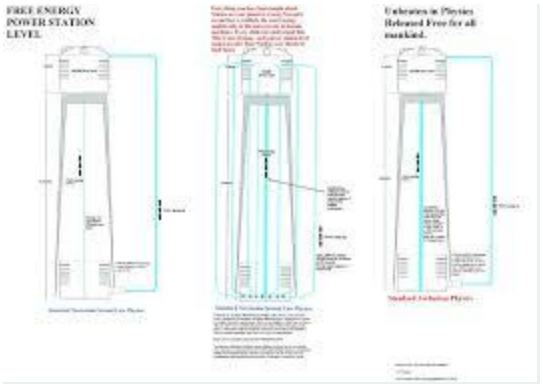
	P_1	V_1	T_1	P_2	V_2	T_2
1	1.50 atm	3.00 L	295 K 22.0 °C	2.50 atm	1.80 L	319 K 46.0 °C
2	720. torr	250. mL	298 K 25.0 °C	760. torr	350. mL	353 K 80.0 °C
3	600. mmHg	2.50 L	295 K 22.0 °C	700. mmHg	3.00 L	264 K −9.15 °C
4	3.50 atm	700. mL	273 K 0.00 °C	2.00 atm	900. mL	358 K 85.0 °C
5	95.0 kPa	4.00 L	295 K 22.0 °C	101 kPa	6.00 L	671 K 398 °C
6	800. torr	275 mL	373 K 100. °C	900. torr	325 mL	453 K 180. °C
7	800. mmHg	3.00 L	288 K 15.0 °C	533 mmHg	2.50 L	360 K 87.0 °C
8	125 kPa	125 mL	524 K 251 °C	100. kPa	100 mL	358 K 85.0 °C

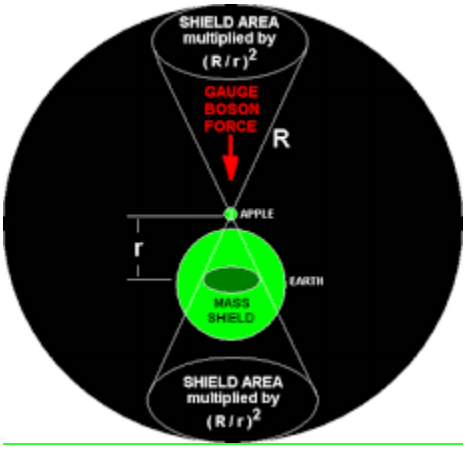


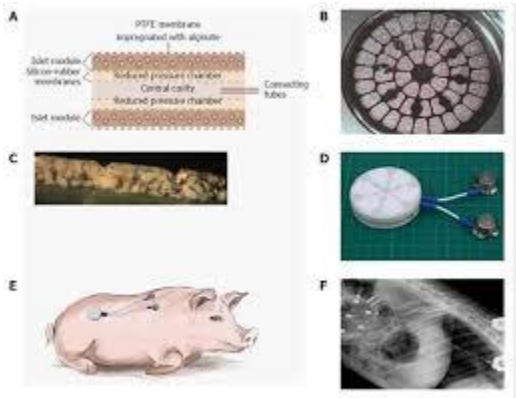


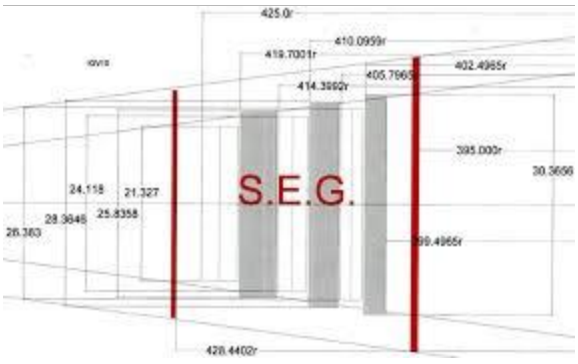

Ion Current at The Right Border (%)
PIC
f_{min}
f_{max}
Bias Frequency (s^{-1})
x 10^6

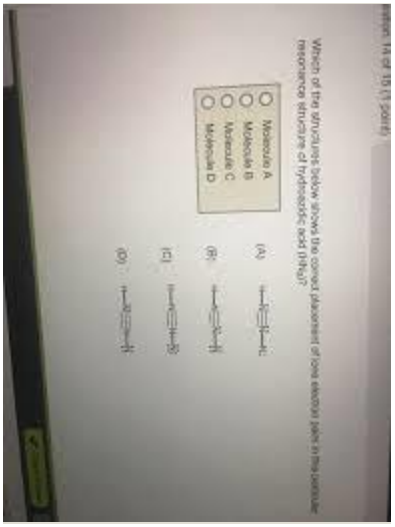

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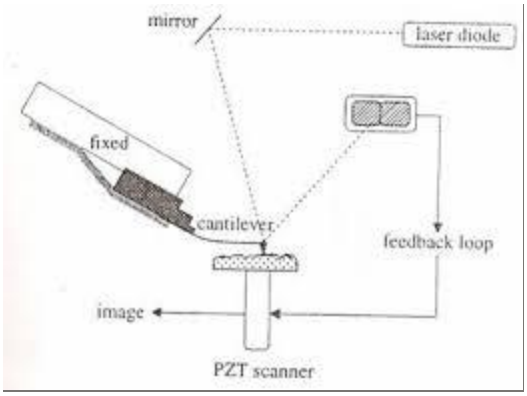

FREE ENERGY POWER STATION LEVEL


SHIELD AREA multiplied by $(R/r)^2$
GAUGE BOSON FORCE
R
APPLE
r
EARTH
MASS SHIELD
SHIELD AREA multiplied by $(R/r)^2$


A
B
C
D
E
F


425.0r
410.0959r
419.7001r
414.3992r
405.7965r
402.4985r
395.000r
30.3656
24.118
21.327
28.3848
25.8358
26.363
S.E.G.
99.4965r
428.4402r





METALLIC BONDING

- Sharing of outer shell electrons by all atoms to form a general electron cloud that permeates the entire block

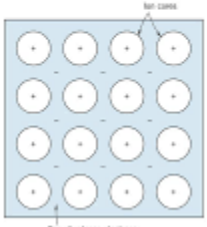


Fig 2.11 Schematic illustration of metallic bonding

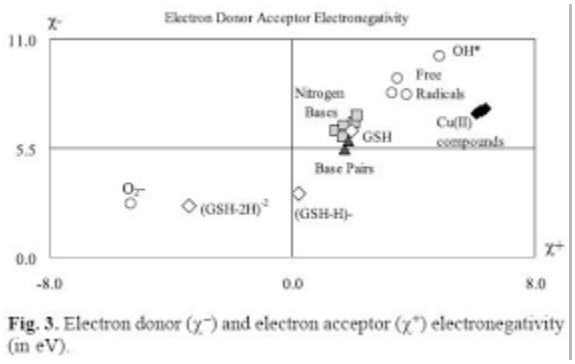
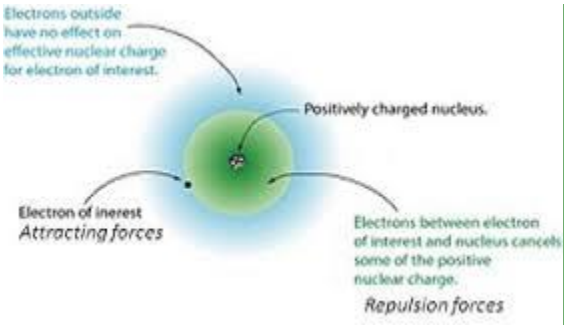
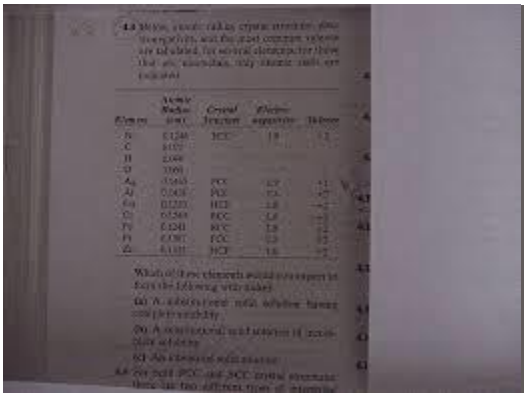
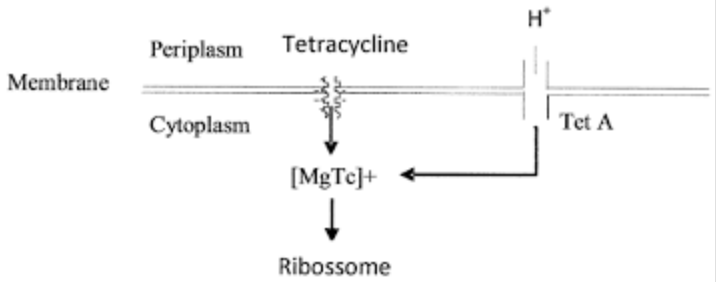
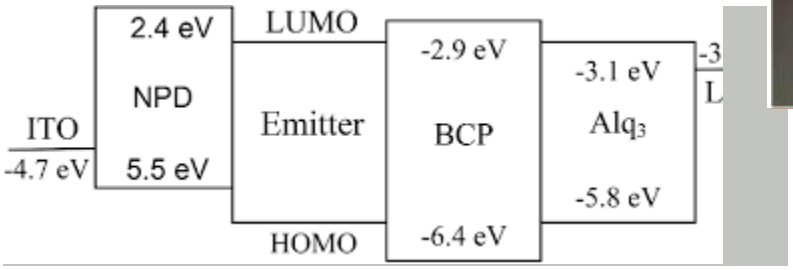


Fig. 3. Electron donor (χ^-) and electron acceptor (χ^+) electronegativity (in eV).

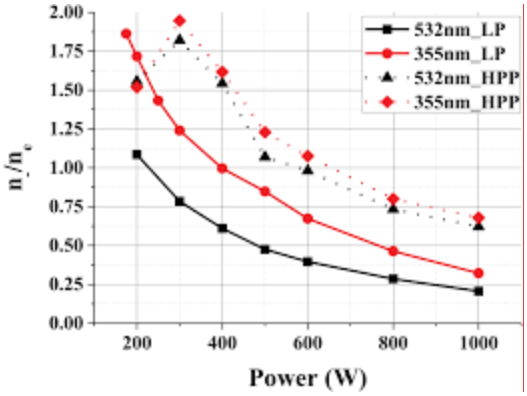


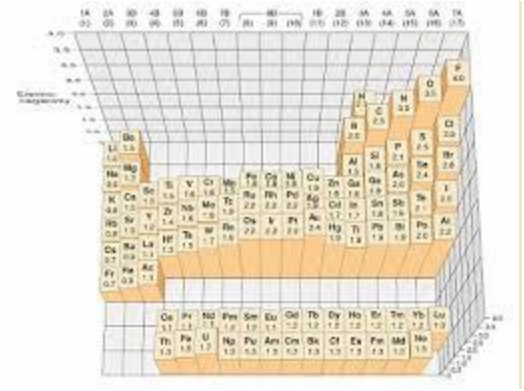




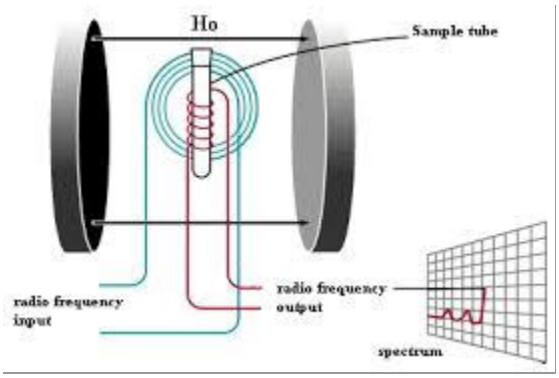


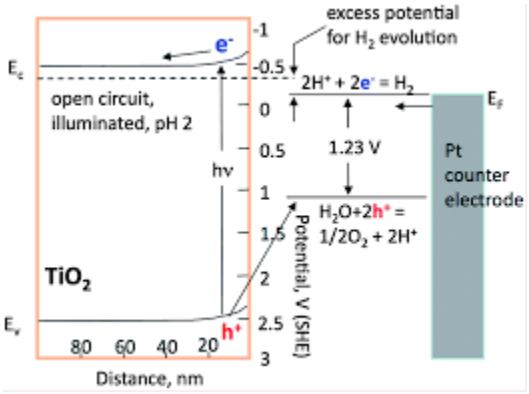


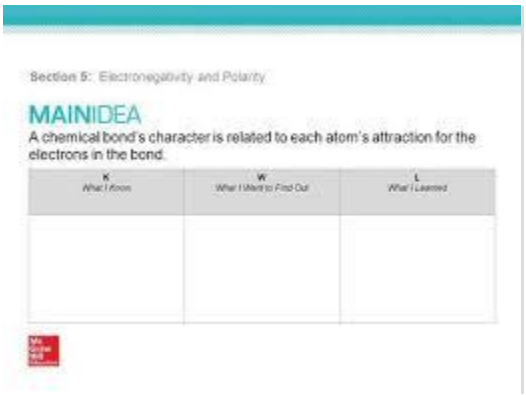

532nm_LP
355nm_LP
532nm_HPP
355nm_HPP
n_e/n_c
Power (W)



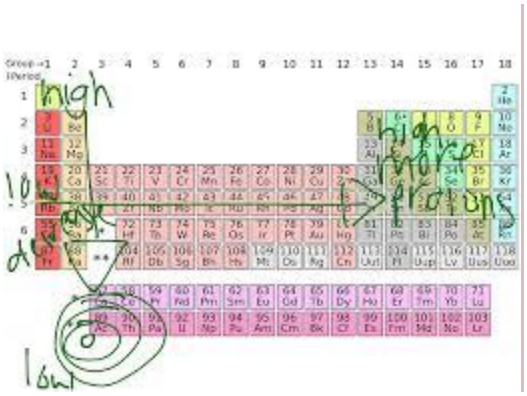

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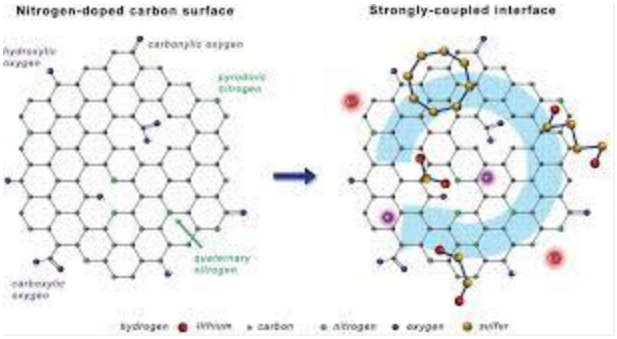

Ho
Sample tube
radio frequency input
radio frequency output
spectrum


excess potential for H2 evolution
e⁻
E_c
open circuit, illuminated, pH 2
2H⁺ + 2e⁻ = H2
E_f
1.23 V
hv
Pt counter electrode
H2O+2h⁺ = 1/2O2 + 2H⁺
TiO2
E_v
h⁺
Potential, V (SHE)
Distance, nm

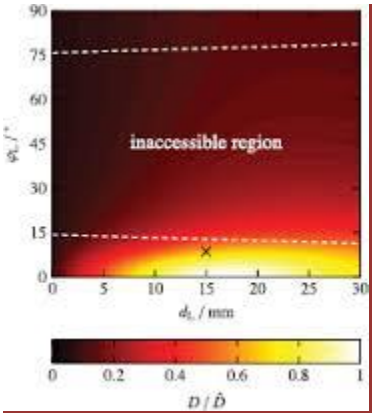

Section 5: Electronegativity and Polarity
MAINIDEA
A chemical bond's character is related to each atom's attraction for the electrons in the bond.
K
What I Know
W
What I Want to Find Out
L
What I Learned

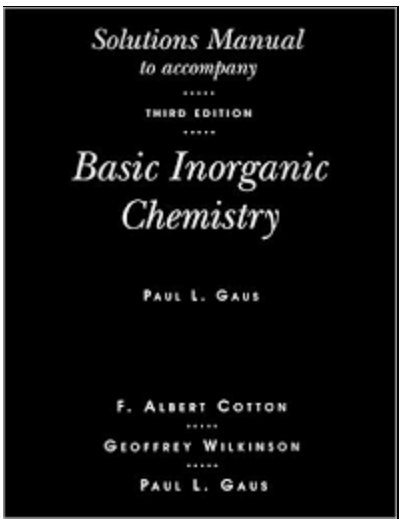



high
high
more
groups
low

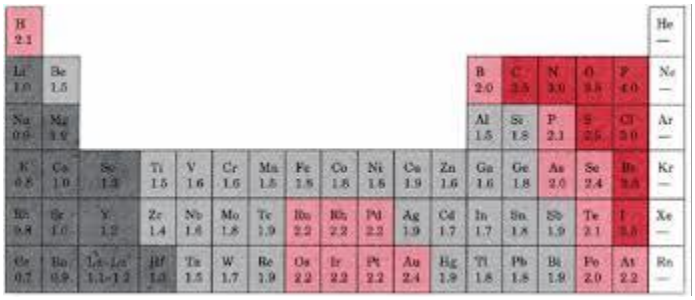

Nitrogen-doped carbon surface
Strongly-coupled interface
hydroxylic oxygen
carbonylic oxygen
pyrrolic nitrogen
quaternary nitrogen
carboxylic oxygen
hydrogen
lithium
carbon
nitrogen
oxygen
sulfur




inaccessible region
φ_L / °
d_L / mm
p / $\hat{p}$

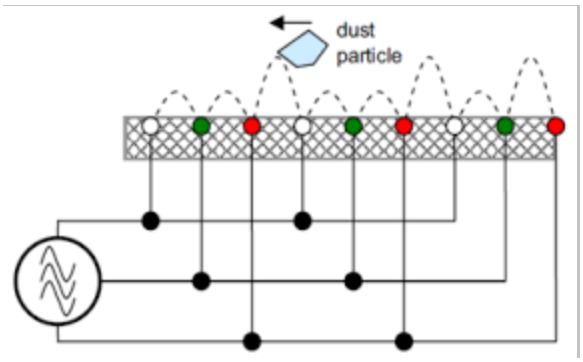

Solutions Manual
to accompany
THIRD EDITION
Basic Inorganic Chemistry
PAUL L. GAUS
F. ALBERT COTTON
GEOFFREY WILKINSON
PAUL L. GAUS

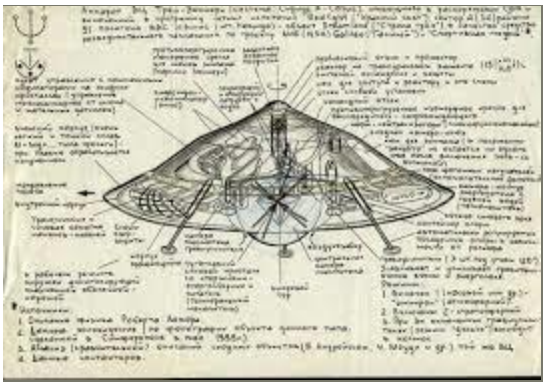

www.grandinetti.org
Electron Affinity Trends

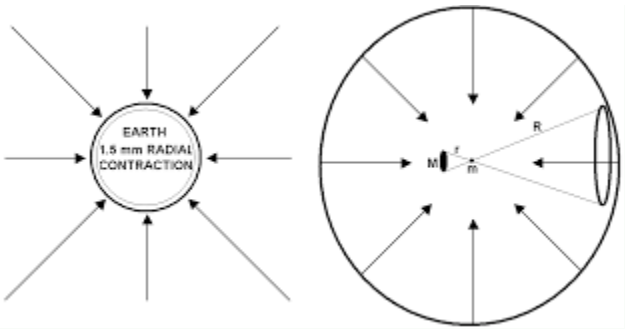


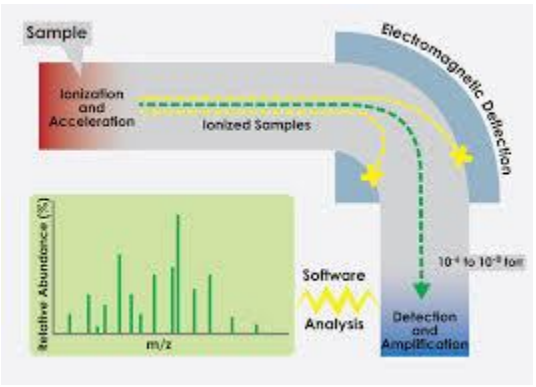


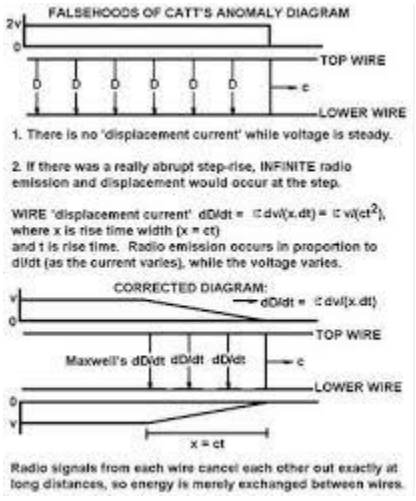

openstax

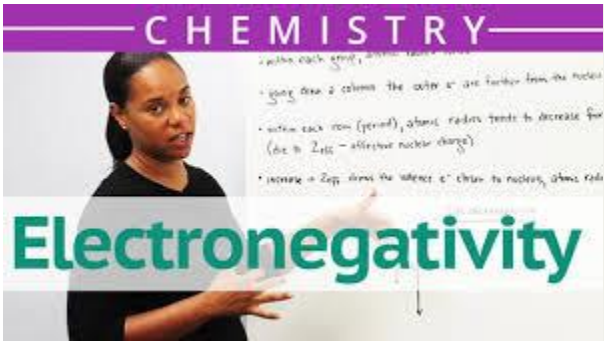

dust
particle

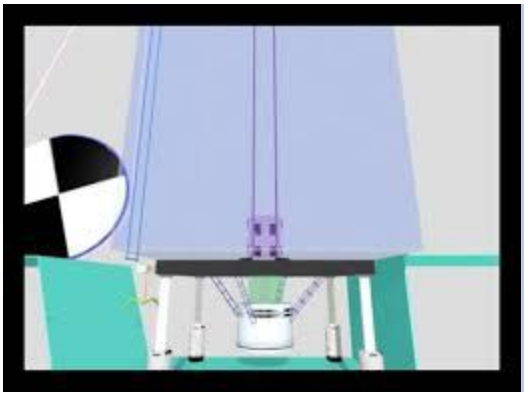


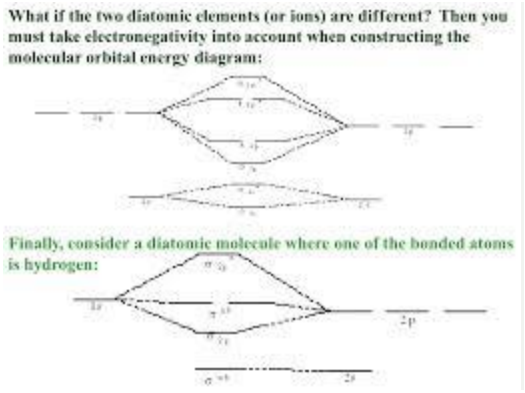

EARTH
1.5 mm RADIAL
CONTRACTION
M
m
R


Sample
Ionization and Acceleration
Ionized Samples
Electromagnetic Deflection
Relative Abundance (%)
m/z
Software
Analysis
Detection and Amplification
10⁻⁴ to 10⁻⁸ torr

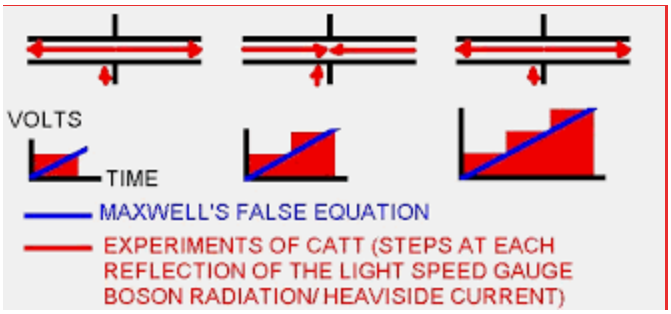

FALSEHOODS OF CATT'S ANOMALY DIAGRAM
2V
0
TOP WIRE
D
c
LOWER WIRE
1. There is no 'displacement current' while voltage is steady.
2. If there was a really abrupt step-rise, INFINITE radio emission and displacement would occur at the step.
WIRE 'displacement current' dD/dt = ∝ dv/(x.dt) = ∝ v/(ct²),
where x is rise time width (x = ct)
and t is rise time. Radio emission occurs in proportion to
d/dt (as the current varies), while the voltage varies.
CORRECTED DIAGRAM:
dD/dt = ∝ dv/(x.dt)
TOP WIRE
Maxwell's dD/dt dD/dt dD/dt
c
LOWER WIRE
x = ct
Radio signals from each wire cancel each other out exactly at long distances, so energy is merely exchanged between wires.

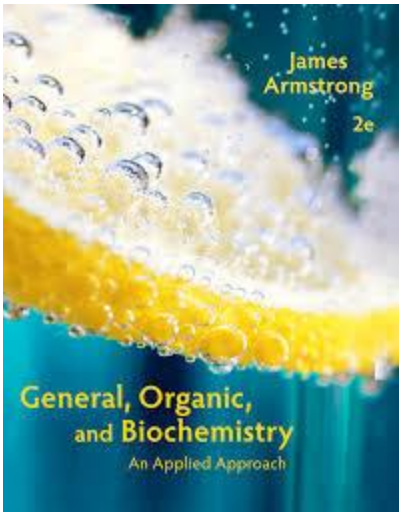

CHEMISTRY
Electronegativity

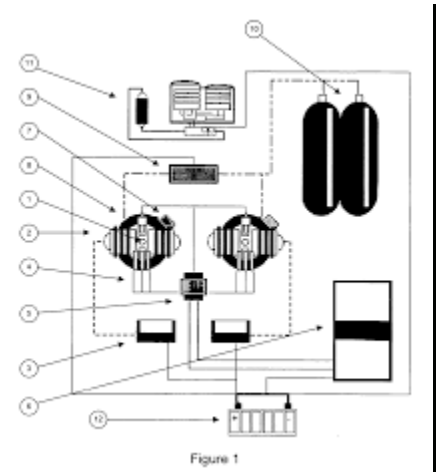


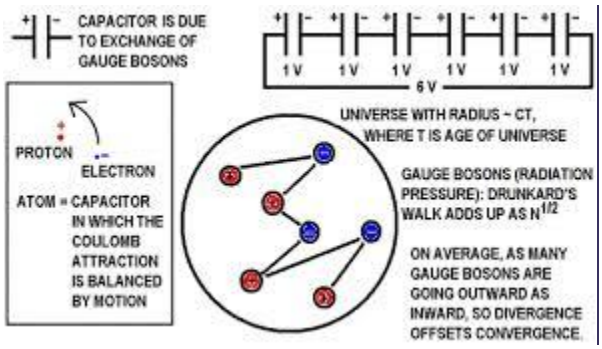

What if the two diatomic elements (or ions) are different? Then you must take electronegativity into account when constructing the molecular orbital energy diagram:
Finally, consider a diatomic molecule where one of the bonded atoms is hydrogen:


The GFS-UAV Project
by JL Naudin


VOLTS
TIME
MAXWELL'S FALSE EQUATION
EXPERIMENTS OF CATT (STEPS AT EACH REFLECTION OF THE LIGHT SPEED GAUGE BOSON RADIATION/ HEAVISIDE CURRENT)


James Armstrong
2e
General, Organic, and Biochemistry
An Applied Approach

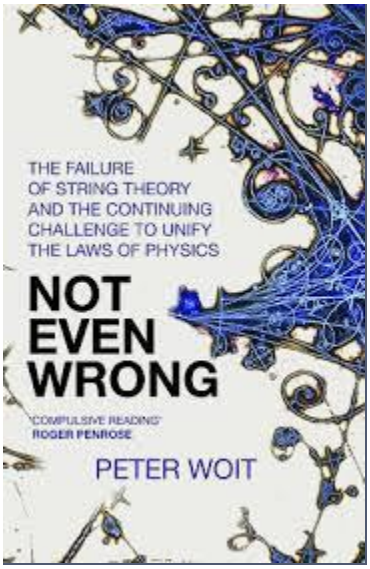

Figure 1


CAPACITOR IS DUE TO EXCHANGE OF GAUGE BOSONS
1V 1V 1V 1V 1V 1V
6 V
PROTON
ELECTRON
ATOM = CAPACITOR IN WHICH THE COULOMB ATTRACTION IS BALANCED BY MOTION
UNIVERSE WITH RADIUS ~ CT, WHERE T IS AGE OF UNIVERSE
GAUGE BOSONS (RADIATION PRESSURE): DRUNKARD'S WALK ADDS UP AS N1/2
ON AVERAGE, AS MANY GAUGE BOSONS ARE GOING OUTWARD AS INWARD, SO DIVERGENCE OFFSETS CONVERGENCE.

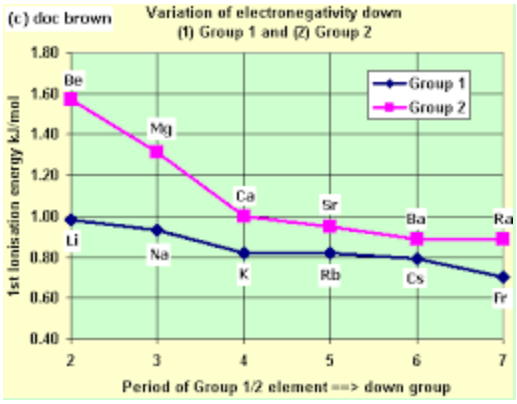

"Persons" Case 1929
"Persons" Case, 1929
JCPC overturned SCC
"Living Tree" approach
Can't forsee everything

5 days ago

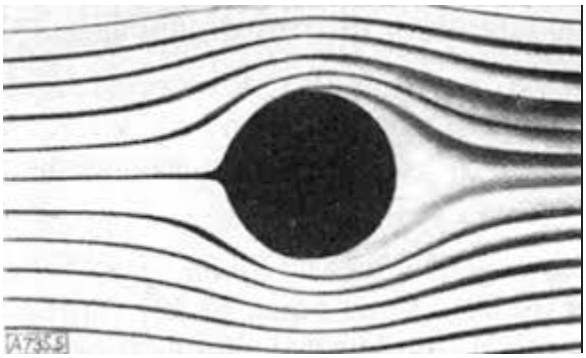

2 Pack Silver Alkaline Energ...
12% OFF

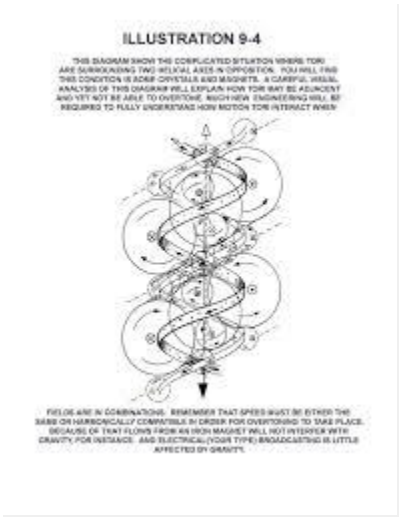

THE FAILURE OF STRING THEORY AND THE CONTINUING CHALLENGE TO UNIFY THE LAWS OF PHYSICS
NOT EVEN WRONG
'COMPULSIVE READING'
ROGER PENROSE
PETER WOIT

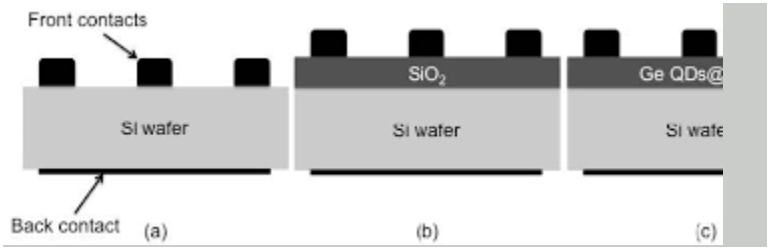








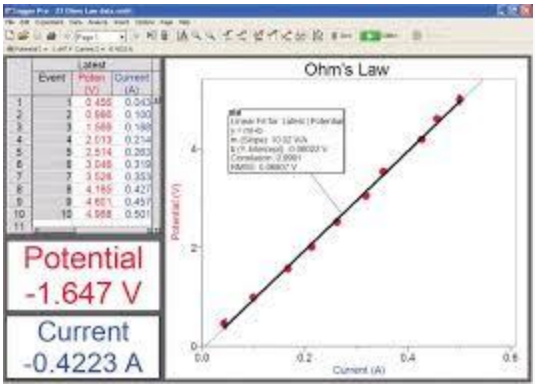


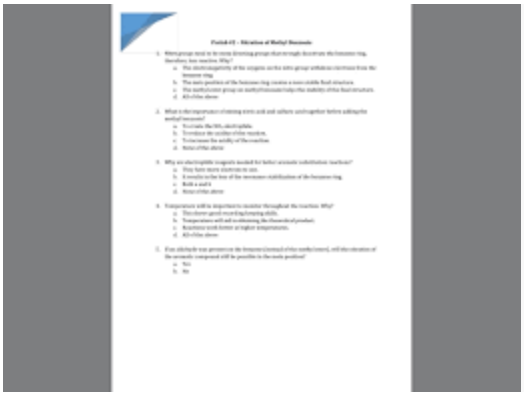


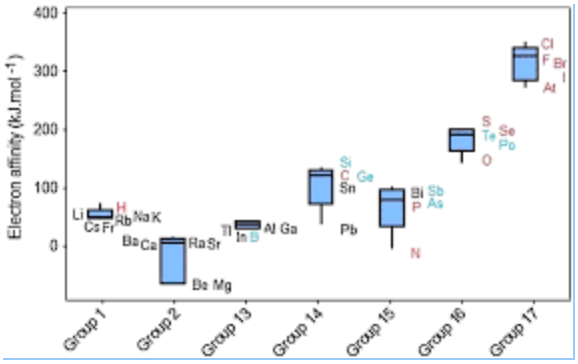




Z	χ	τ	I	IIa (C^+-C)	IIb (C-C^-)	A	B
NH_2	χ_N=3.04						
F	χ_F=4.00						

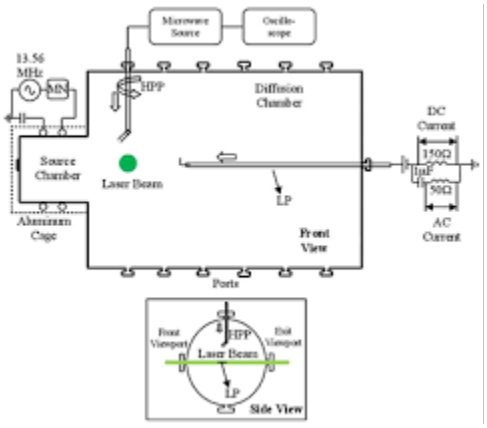


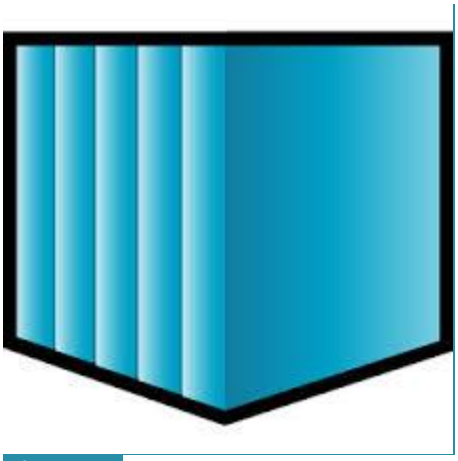



Electron affinity (kJ.mol⁻¹)
400
300
200
100
0
Group 1
Group 2
Group 13
Group 14
Group 15
Group 16
Group 17

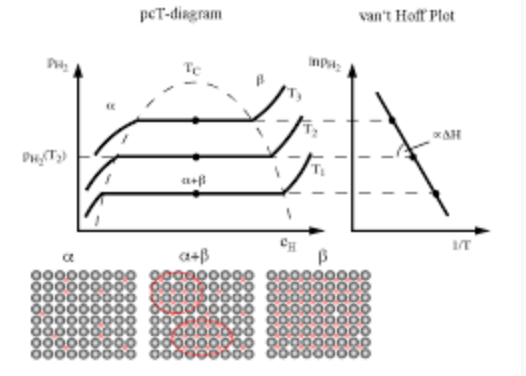

Mobile
Mobile usually refers to:
A mobile phone, a portable communications device
A mobile (sculpture), a hanging artwork (or toy)
Mobility (disambiguation), the ability to move or be moved
Mobile may also refer to, Technology, Places, Entertainment, or other

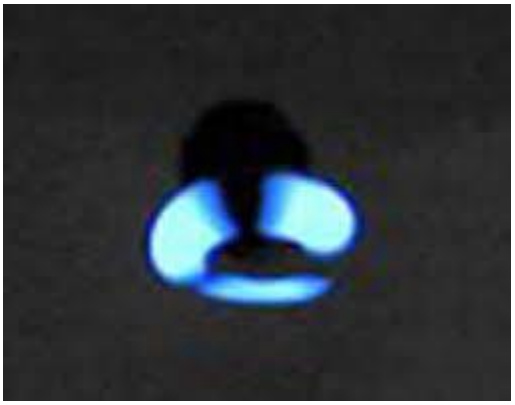

Electronegativity (Sanderson)
WebElements
www.webelements.com

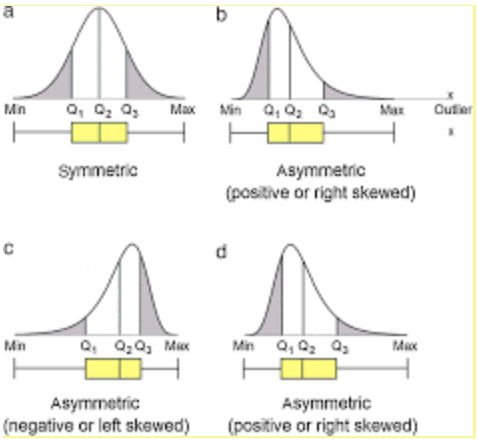

Microwave Source
Oscilloscope
13.56 MHz
MN
HPP
Diffusion Chamber
DC Current
150Ω
1nF
50Ω
AC Current
Source Chamber
Laser Beam
LP
Aluminum Cage
Front View
Ports
Front Viewport
Exit Viewport
Side View

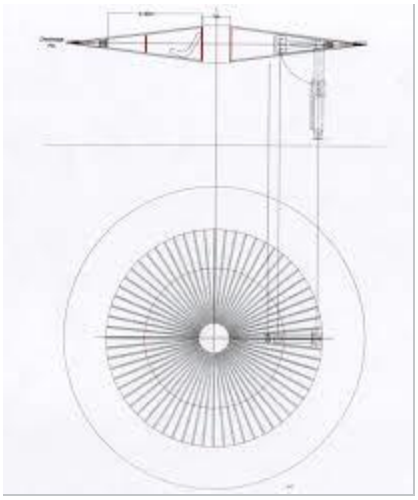


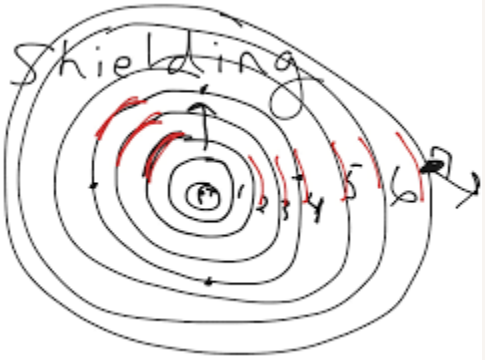
8 hours ago


pcT-diagram
van't Hoff Plot
α
α+β
β
1/T





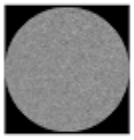




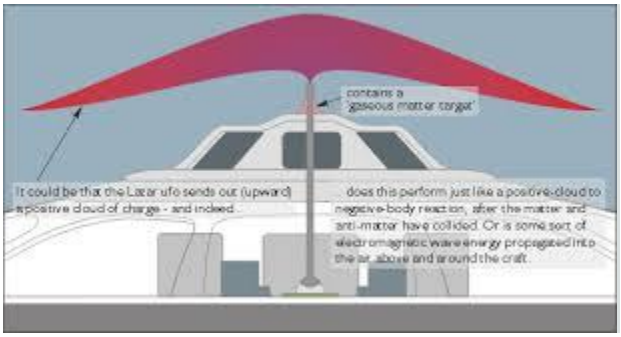


ALLOYING A SURFACE

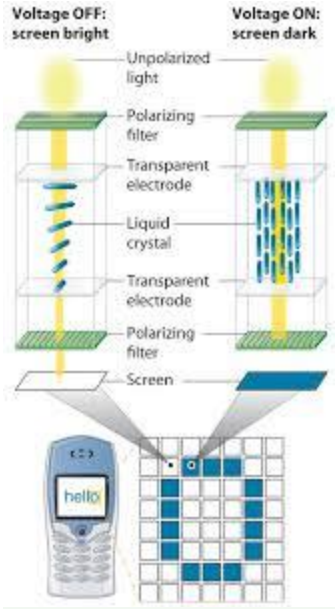
- Low energy electron microscope view of a (111) surface of Cu.
- Sn islands move along the surface and "alloy" the Cu with Sn atoms, to make "bronze".
- The islands continually move into "unalloyed" regions and leave tiny bronze particles in their wake.
- Eventually, the islands disappear.

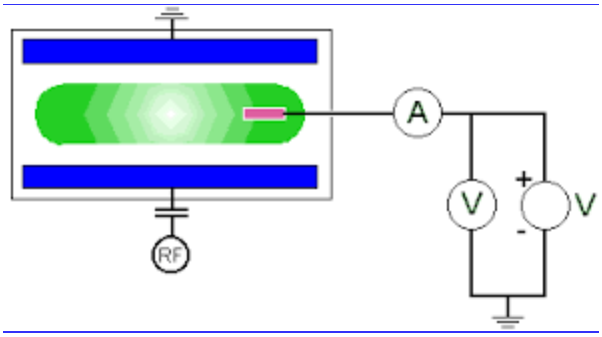


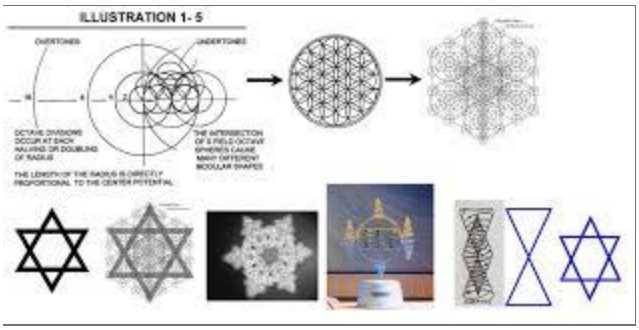
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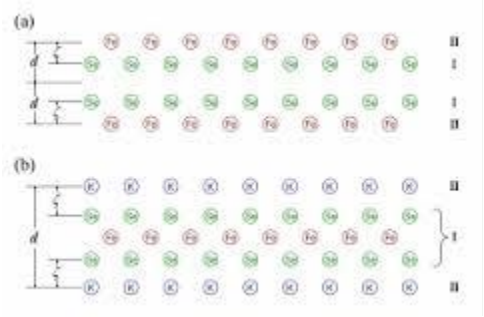


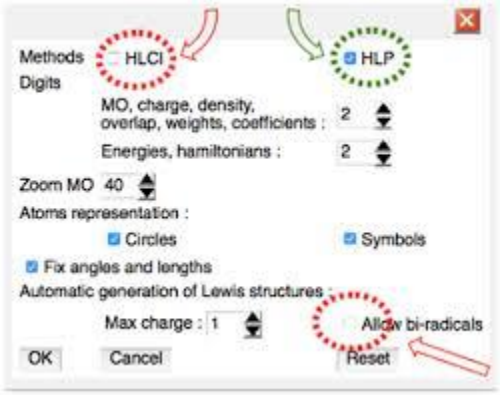





A
V
+
V
-
RF

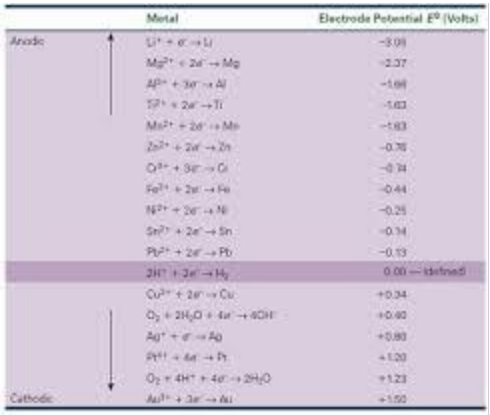

ILLUSTRATION 1- 5
OVERTONES
UNDERTONES
OCTAVE DIVISIONS OCCUR AT EACH HALVING OR DOUBLING OF RADIUS
THE INTERSECTION OF 5 FIELD-OCTAVE SPHERES CAUSE NINETY DIFFERENT MODULAR SHAPES
THE LENGTH OF THE RADIUS IS DIRECTLY PROPORTIONAL TO THE CENTER POTENTIAL

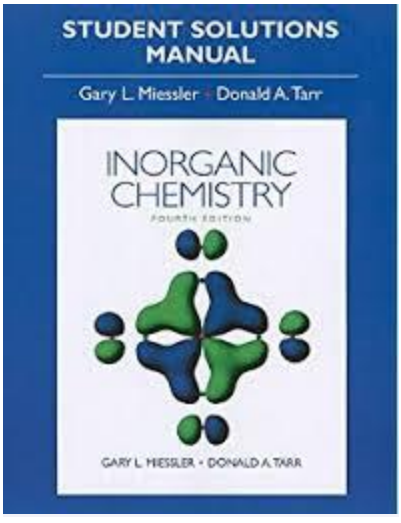

(a)
(b)


Methods
HLCI
HLP
Digits
MO, charge, density, overlap, weights, coefficients :
2
Energies, hamiltonians :
2
Zoom MO
40
Atoms representation :
Circles
Symbols
Fix angles and lengths
Automatic generation of Lewis structures :
Max charge :
1
Allow bi-radicals
OK
Cancel
Reset


BEST EXERCISES
TARGETING EACH MUSCLE GROUP



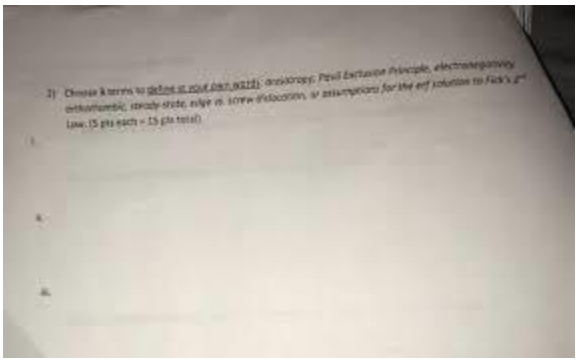

Metal
Electrode Potential E^0 (Volts)
Anode
Cathodic

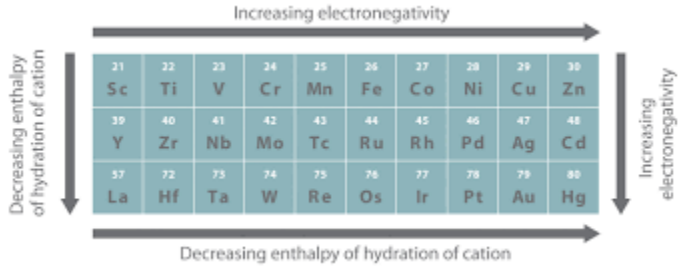

STUDENT SOLUTIONS MANUAL
Gary L. Miessler • Donald A. Tarr
INORGANIC CHEMISTRY
FOURTH EDITION
GARY L. MIESSLER • DONALD A. TARR

Ionization Potential, Electron Affinity, Electronegativity

- If sufficient energy is supplied, an electron in the outer orbital can break away completely from the atom and become free. The energy required to remove an electron in this manner is known as the ionization potential.
- When the extra electron is attracted from infinity to the outer orbital of the neutral atom, is known as the electron affinity of the atom.
- The tendency of an atom to attract electrons to itself during the formation of bonds with other atoms is measured by the electronegativity of the atom.

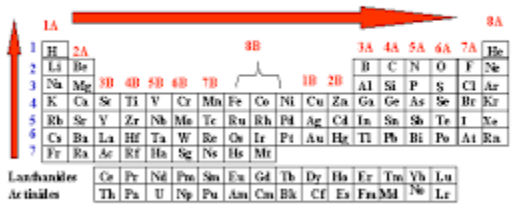






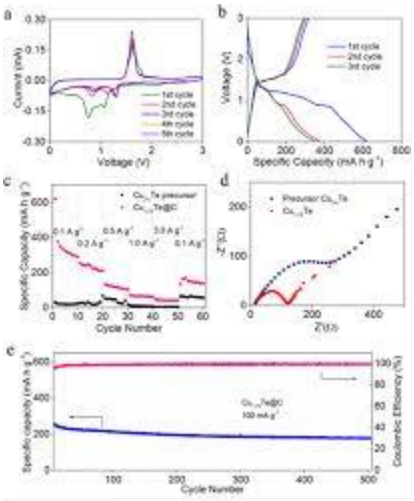
H 2,2						
Li 1,0	Be 1,6	B 2,0	C 2,6	N 3,0	O 3,4	F 4,0
Na 0,9	Mg 1,3	Al 1,6	Si 1,9	P 2,2	S 2,6	Cl 3,2
K 0,8			Ge 2,0	As 2,2	Se 2,6	Br 3,0
Rb 0,8					Te 2,1	I 2,7

Electronegativity Trends in Periodic Table

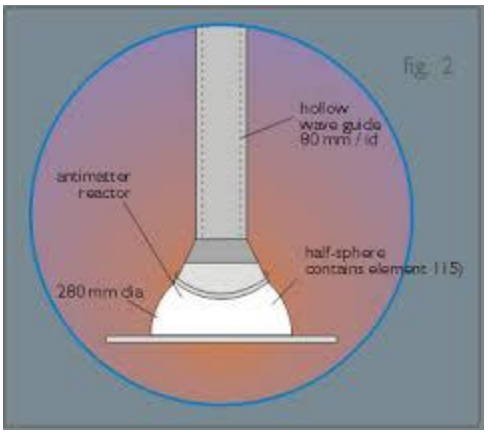


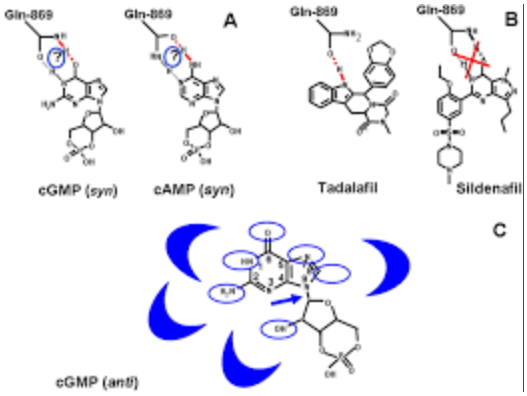
Electronegativity increases from bottom to top in a column.
Electronegativity increases from left to right across a group.



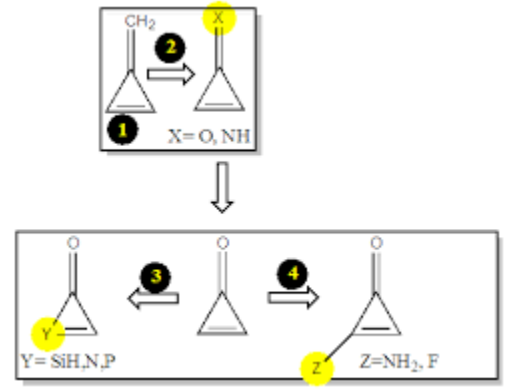


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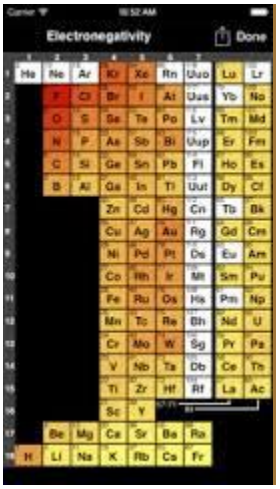

fig. 2
hollow
wave guide
80 mm / id
antimatter
reactor
half-sphere
contains element 115)
280 mm dia

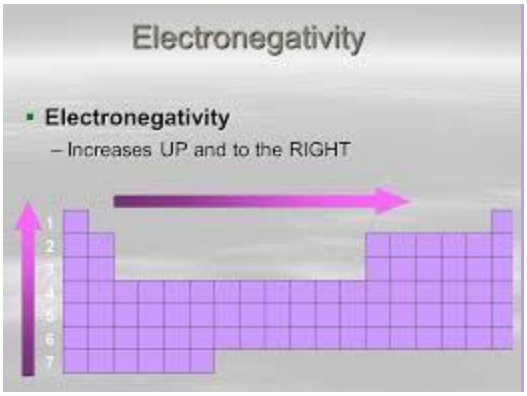

Gln-869
Gln-869
A
Gln-869
Gln-869
B
cGMP (syn)
cAMP (syn)
Tadalafil
Sildenafil
C
cGMP (anti)

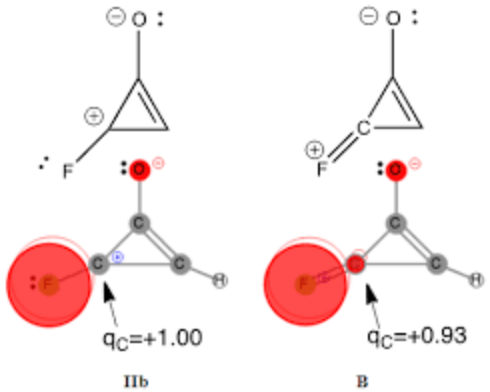


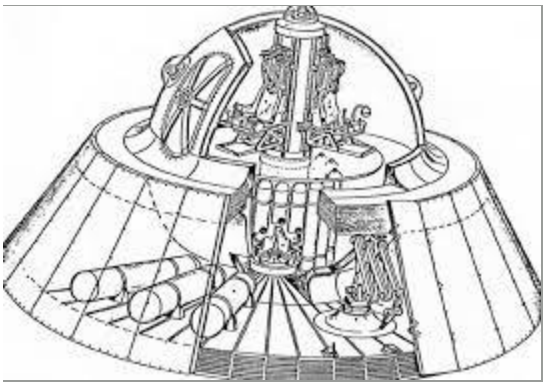

CH2
X
2
1
X= O, NH
3
4
Y
Y= SiH,N,P
Z
Z=NH2, F

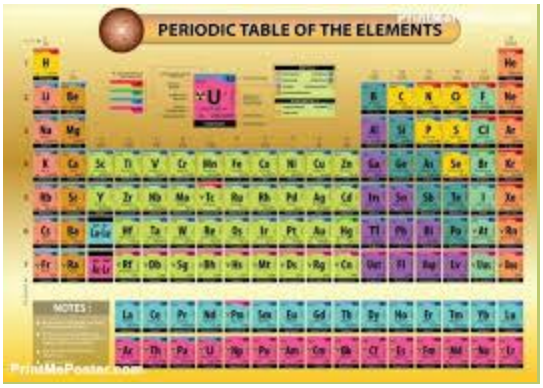

DRINK YOUR WAY TO WEIGHT LOSS!
Honey
Lemon
Cinnamon

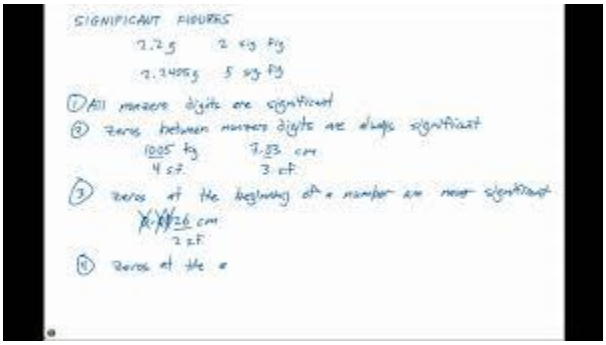

Electronegativity
Done

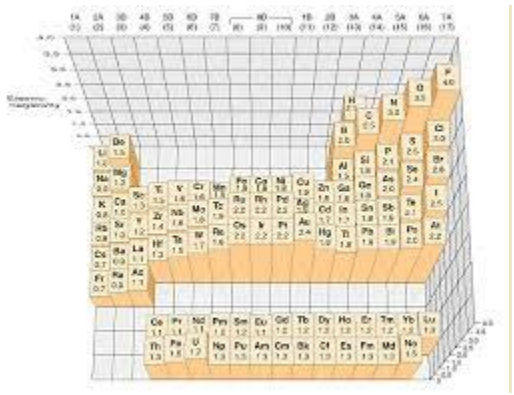

Electronegativity
Electronegativity
– Increases UP and to the RIGHT


qC=+1.00
qC=+0.93
IIb
B







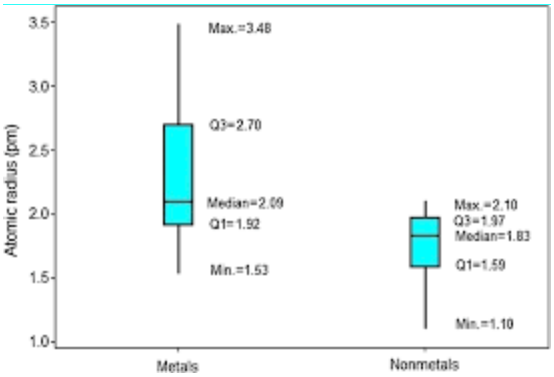


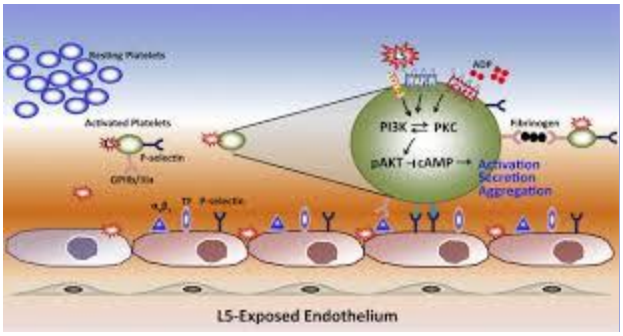
Substituted Alkanes

X	$\overset{\alpha}{C}H_2X$	$R\overset{\alpha}{C}H_2X$	$R_2\overset{\alpha}{C}HX$	σ^*
—H	0.23	0.9	1.25	0.00
—R	0.9	1.25	1.5	0.47
—F	4.26	4.4	–	–
—Cl	3.06	3.4	4.0	2.53
—Br	2.68	3.33	4.1	2.33
—I	2.16	3.2	4.2	1.82
—OH	3.47	3.6	3.6	2.56
—OR	3.3	3.4	–	2.36
—OAr	3.7	3.9	–	3.23
—O—C(=O)—R	3.6	4.1	5.0	3.13
—O—C(=O)—Ar	3.8	4.2	5.1	–
—SH	2.44	2.7	–	–
—SR	2.1	2.5	–	1.64
—NR_2	2.2	2.8	2.9	1.57
—NHCR(=O)	2.8	–	3.2	–
—NO_2	4.26	4.4	4.7	–
—CHO	2.20	2.3	2.4	1.70
—C(=O)—R	2.1	2.4	2.5	1.70
—C(=O)—Ar	2.6	3.0	3.4	1.70
—C(=O)—OH	2.07	2.3	2.6	1.55

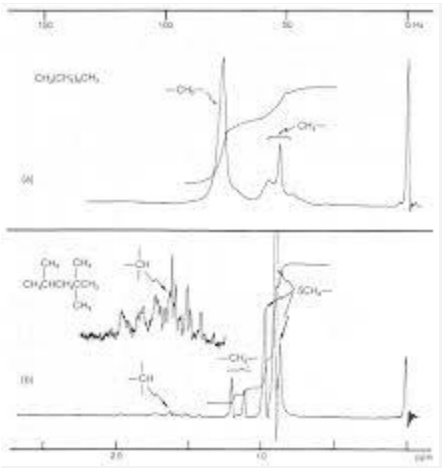
Amorphous

- No repeating structure (amorphous is pile of bricks compared to a brick wall (crystalline))
- Must cool very rapidly from the liquid to prevent diffusion or combine a number of incompatible (size,crystal structure, electronegativity) atoms.
- Currently marketed by Liquidmetal http://www.liquidmetal.com/index/ in bulk and Metglas http://www.metglas.com/products in ribbon, but still a niche market.









ASC (NP_037380)	TRAF6 (NP_004611)	PLD1 (NP_002653)	PH
[8]LDALENLTAEE[18]	[39]TASTCNLSSSFM[50]	[72]QTYLSGCPKAQVLEVERFTSTTRV[97]	[81]
[19]LTAEELKKFKLKLLSVPLR[33]	[251]SVIPDSGYISEVRNFQETIH[309]	[124]QEFHRELLKYKAFIRI[139]	[171]
[23]LLSVPLREGYGRIPRGA[43]	[310]RTLEDKVA[342]	[202]TTEFLDISQLSFIHDLG[218]	[315]
[60]QAATHQGSGAAPAG[89]	[437]TILDQSEAPVRQNHEEIMDAKPE[465]	[281]EFKIKVGKKETETKYGIRID[300]	[471]
[127]ALIARVTNVEWLLDALYG[138]		[299]KETETKYGIRIDNLSRT[315]	[584]
[139]ALYGKVLTDEQYQAVR [150]		[350]VEGNRWRLDCELKRKACQGVR[414]	
[156]PSKMRKLFSFTP[167]		[402]EYTKRTLMRIL[441]	
[173]WTCKDLLLQALRE[193]		[453]HVSSTVYLWAHHEKLVIDQSVAFVG[479]	
		[524]RLKDKNEPVQNLPIQK[539]	
		[661]CRGENSILGQLKAELGNQWINYIS[674]	
		[681]HAELEGNLVTELIYVHSKLL[900]	
		[1076]LRDFINKPVLAKEDPIRAEEEL[1097]	



- Electronegativity **increases** as you go across a period
 - The stronger the effective nuclear charge, the greater the attraction for e-'s
- Electronegativity **decreases** as you go down a group
 - Increased # of energy levels and "shielding" decrease the effective nuclear charge, decreasing the attraction for e-'s

11. Acid strength – know the 6 strong acids: HCl, HBr, HI, HNO_3, $HClO_4$, and H_2SO_4 (removal of the first H^+ only)

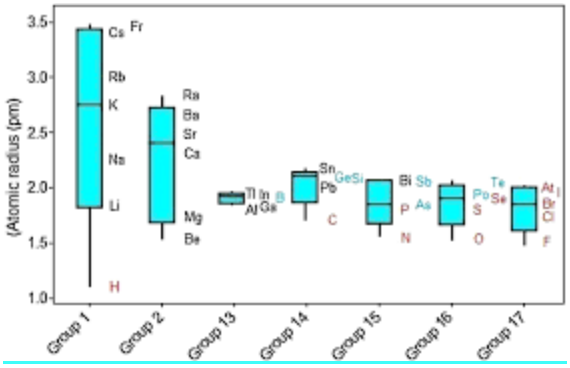
a) binary acids – acid strength increased with increasing size and electronegativity of the "other element". (NOTE: Size predominates over electronegativity in determining acid strength.)

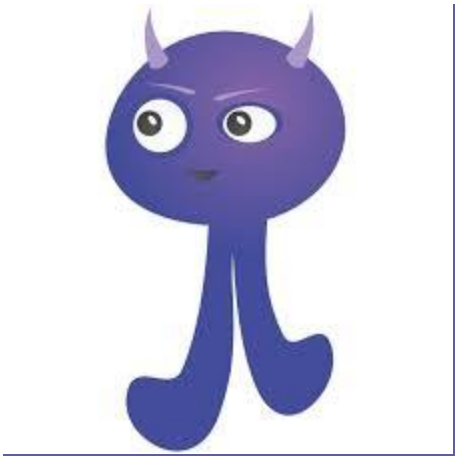
Example: $H_2Te > H_2O$ and $HF > NH_3$

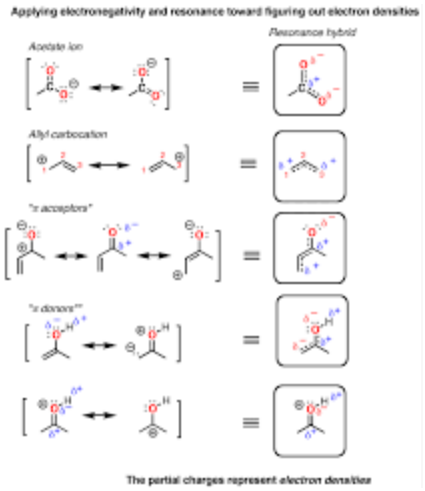
b) oxoacids – Acid strength increases with increasing:

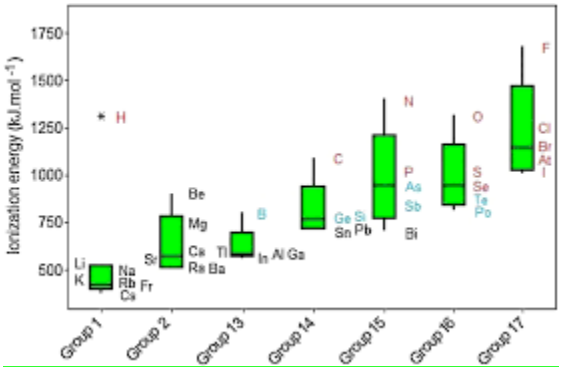
1) electronegativity
2) number of bonded oxygen atoms
3) oxidation state







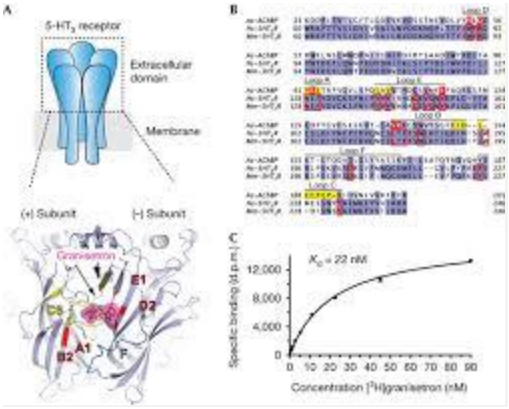




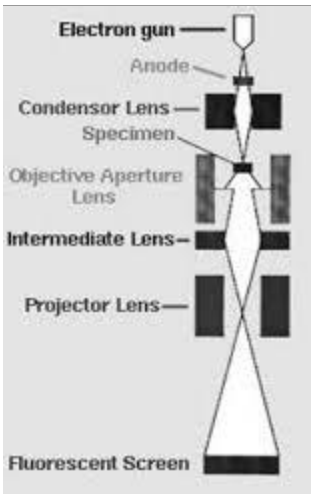


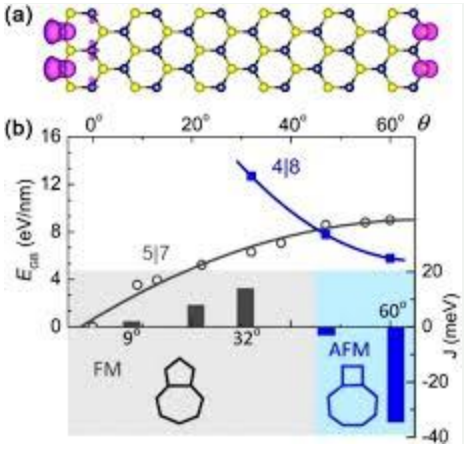




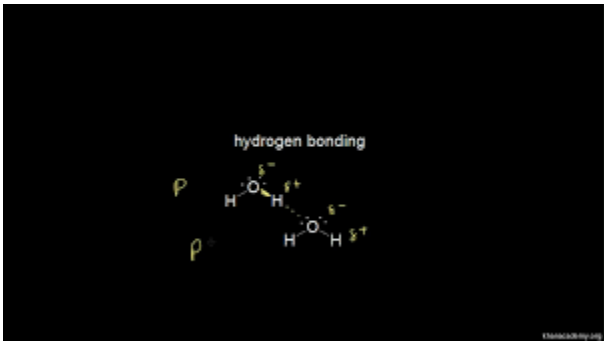


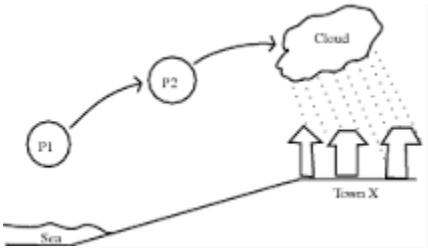
Chapter 9 Chemical Bonding

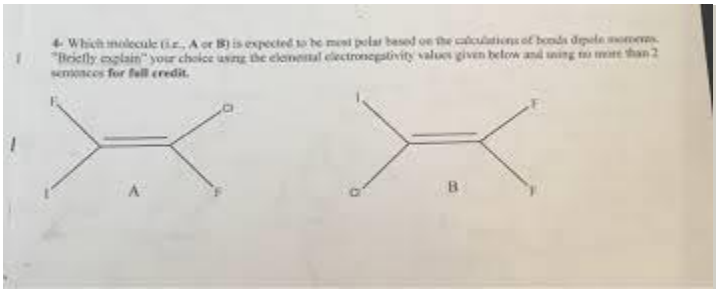












2) Polar bonds:

- If a covalent bond is between 2 different atoms then the attraction from each is more likely to be unequal.
- One atom will have more protons in the nucleus / less shielding.
- This means that that atom will attract the bonding pair of electrons more than the other.
- **The power of an atom to attract bonding pair electrons to itself is called electronegativity**

Hydrogen chloride:



The bonded electron pair is attracted towards the Cl atom.

- The attraction from the nucleus for the bonding electrons will be different.
- Chlorine is the more electronegative atom.
- This means the bonding electrons will not be closer to the chlorine atom.
- This covalent bond is **Polarised**.
- Because chlorine atom has the bonding electrons nearer to it, the chlorine atom will have a **small negative charge, δ-**.

δ is used to mean ' a little bit of '

- Because the hydrogen doesn't have its fair share of the bonding electrons it will have a **small positive charge, δ+**.
- The molecule has a small negative charge at one end and a small positive charge at the other end.
- We say the molecule has a **permanent dipole**.

Di - ' 2 '
Pole - poles (positive and negative)

Polar molecules:

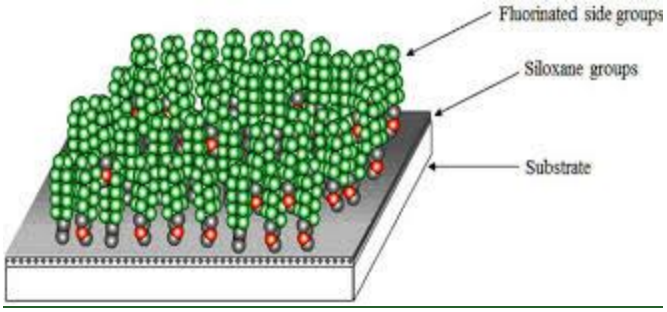
- Molecules like HCl are called polar molecules.
- This is because **over the whole molecule** there are ' **2 poles** '.

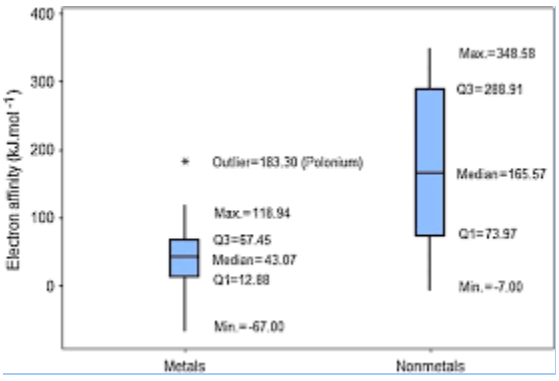


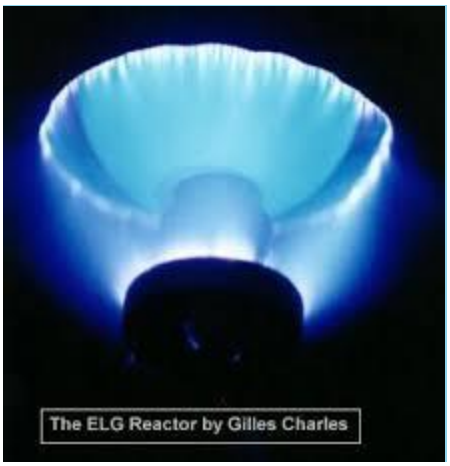
- Some molecules can have polar covalent bonds without being polar.
- It comes down to symmetry.

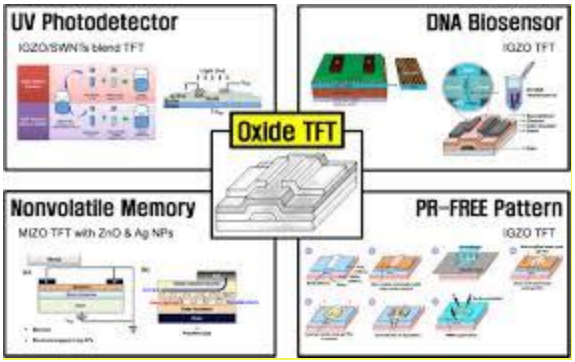


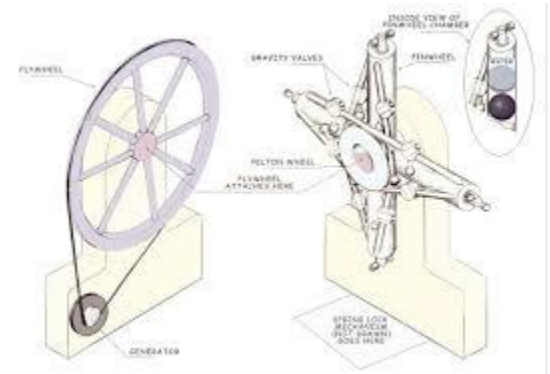
- Basically there is not a positive end and a negative end.
- So CO_2 in classed as non - polar even though all of the bonds are polarised.





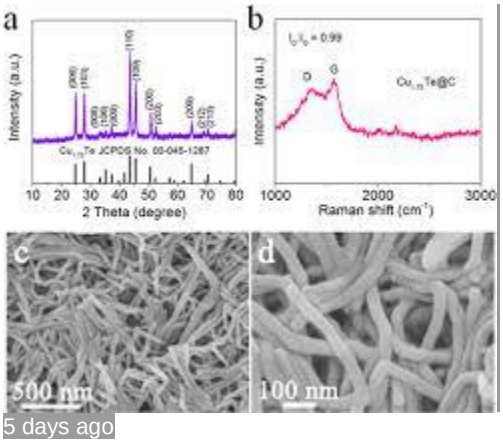

The ELG Reactor by Gilles Charles


UV Photodetector
IGZO/SWNTs blend TFT
DNA Biosensor
IGZO TFT
Oxide TFT
Nonvolatile Memory
MIZO TFT with ZnO & Ag NPs
PR-FREE Pattern
IGZO TFT

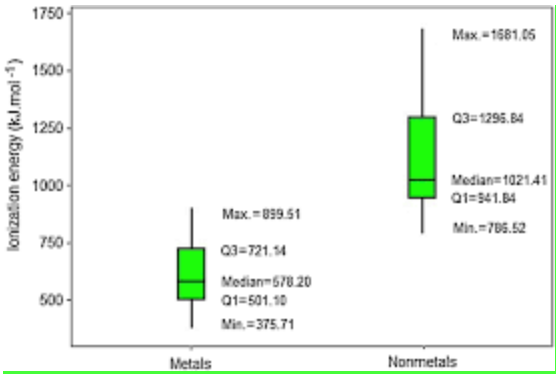


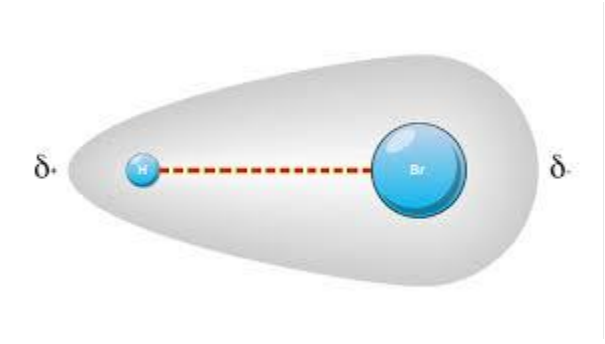

X-ray Photoelectron Spectroscopy (XPS)



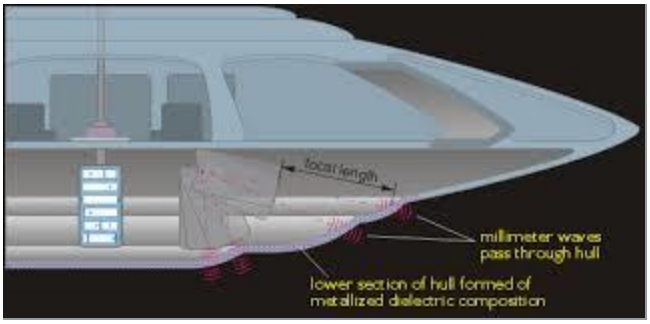

a
b
Intensity (a.u.)
2 Theta (degree)
Raman shift (cm⁻¹)
D
G
c
d
500 nm
100 nm

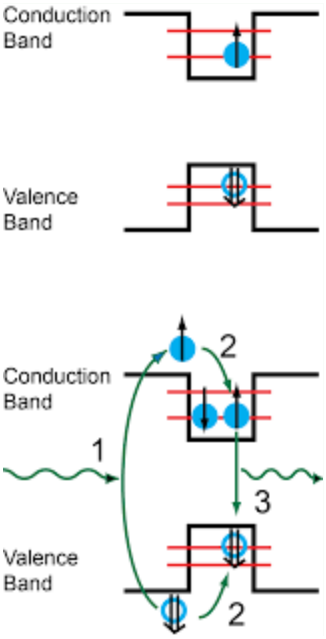
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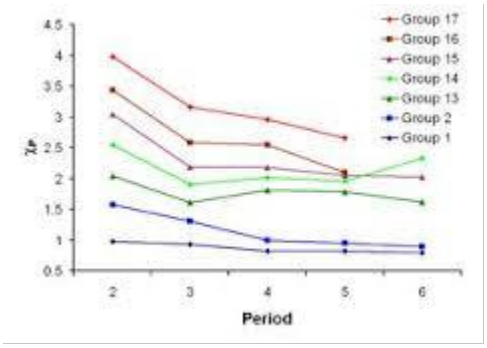

Ionization energy (kJ.mol⁻¹)
Max.=1681.05
Q3=1296.84
Median=1021.41
Q1=941.84
Min.=786.52
Max.=899.51
Q3=721.14
Median=678.20
Q1=501.10
Min.=375.71
Metals
Nonmetals

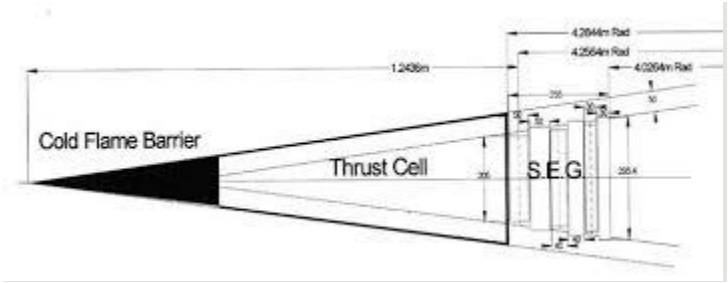

δ+
H
Br
δ-

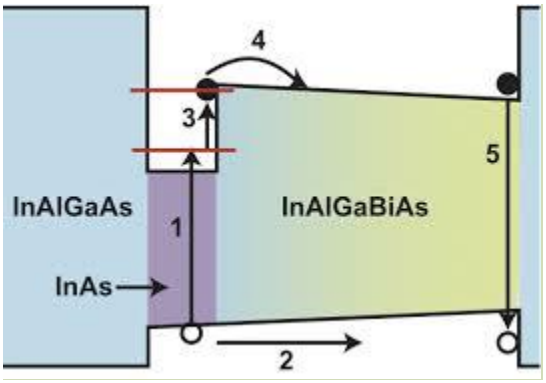






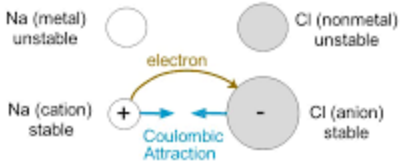


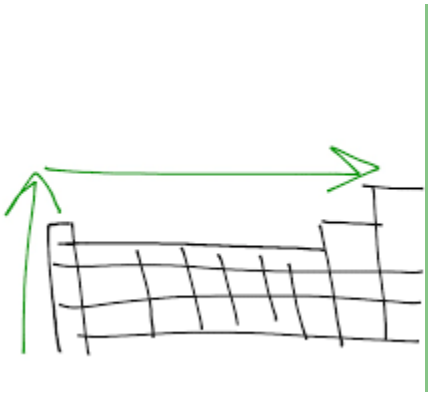




IONIC BONDING

- Occurs between + and - ions.
- Requires electron transfer.
- Large difference in electronegativity required.
- Example: NaCl

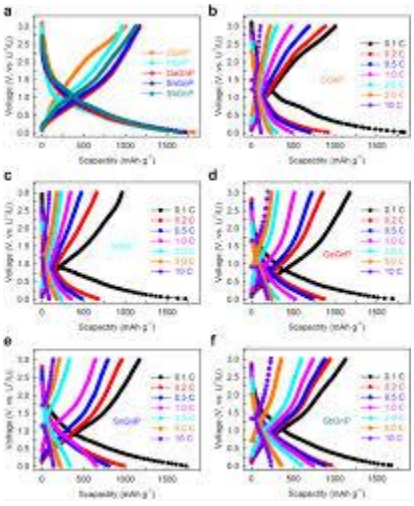


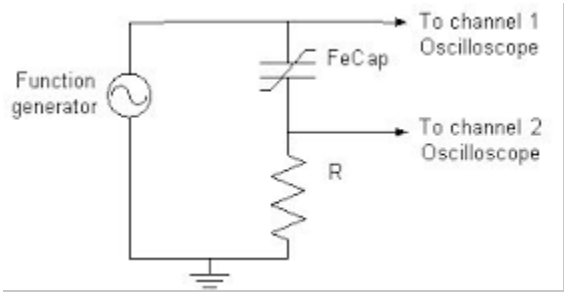


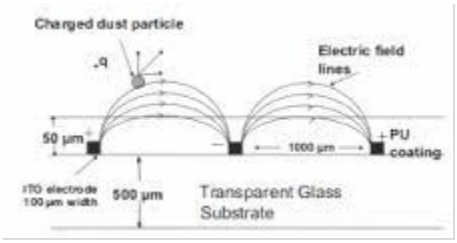
$$c^2 d\tau^2 = \frac{(\Delta - a^2 \sin^2\theta)}{\rho^2} c^2\, dt^2 - \left(\frac{\rho^2}{\Delta}\right) dr^2$$
$$- \rho^2 d\theta^2 + (a^2 \Delta \sin^2\theta - r^4 - 2r^2 a^2 - a^4) \frac{\sin^2\theta\, d\phi^2}{\rho^2}$$
$$- (\Delta - r^2 - a^2) \frac{2a \sin^2\theta\, c\, dt\, d\phi}{\rho^2}$$

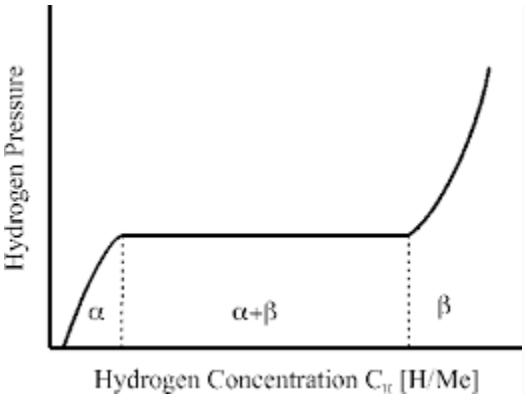


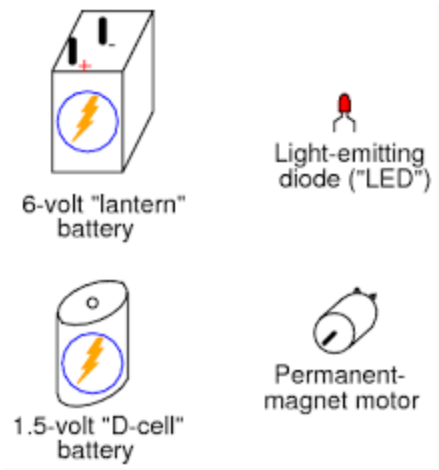
H 2.1							
Li 1.0	Be 1.5		B 2.0	C 2.5	N 3.0	O 3.5	F 4.0
Na 0.9	Mg 1.2		Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0
K 0.8	Ca 1.0						Br 2.8
							I 2.5



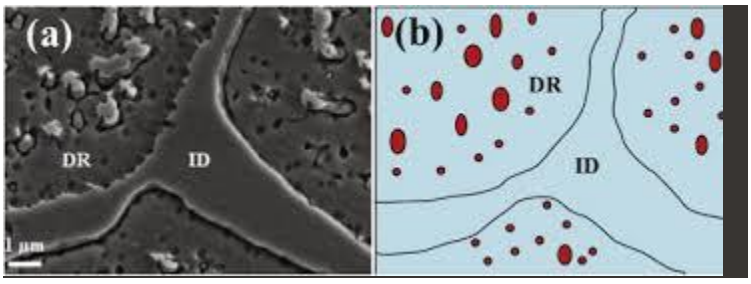




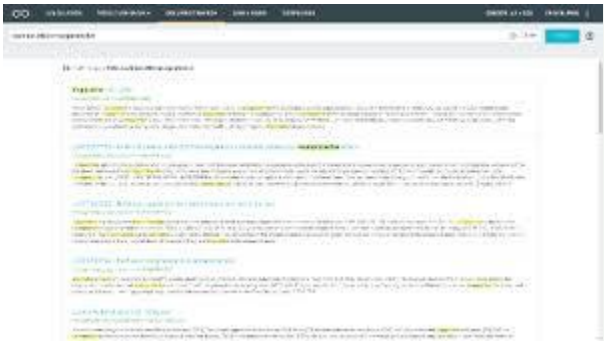


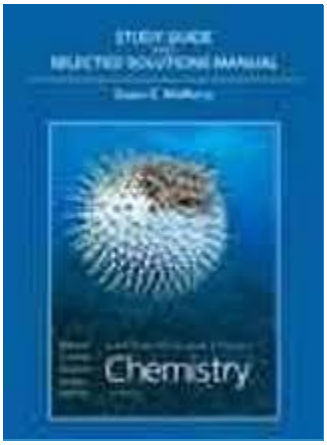




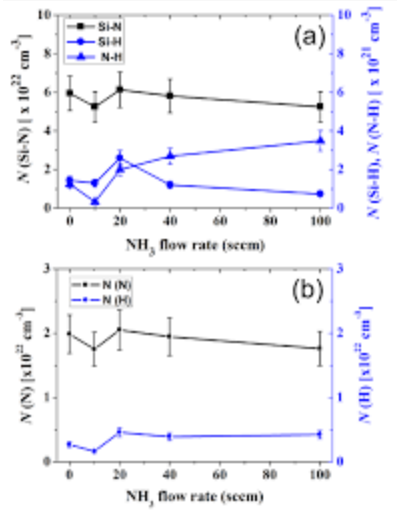


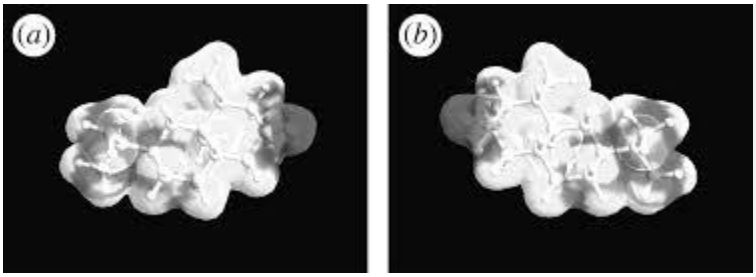


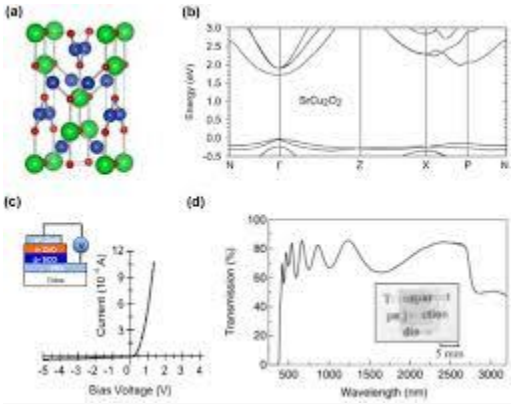



STUDY GUIDE
SELECTED SOLUTIONS MANUAL
Chemistry


MYSTERY SCIENCE
Making Waves
ACTIVITY
HIGH-PITCH
LOW-PITCH
HIGH-PITCH
LOW-PITCH

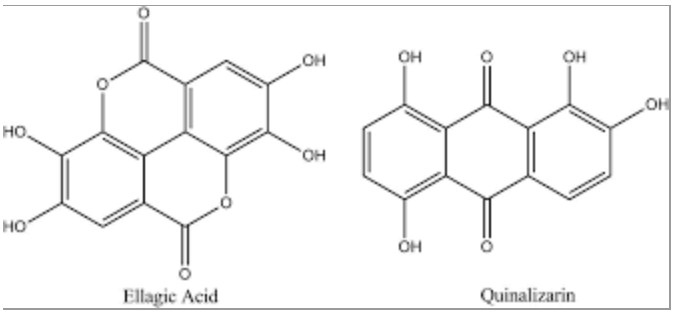

Si-N
Si-H
N-H
(a)
N (Si-N) [x 10^22 cm^-3]
N (Si-H), N (N-H) [x 10^21 cm^-3]
NH3 flow rate (sccm)
N (N)
N (H)
(b)
N (N) [x10^22 cm^-3]
N (H) [x10^22 cm^-3]
NH3 flow rate (sccm)

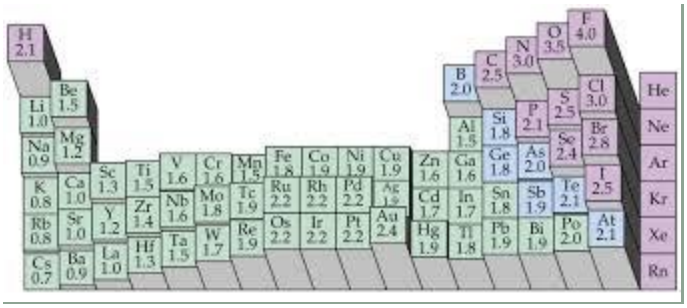

(a)
(b)


(a)
(b)
SrCu2O2
Energy (eV)
N
Γ
Z
X
P
N
(c)
(d)
Current (10^-4 A)
Bias Voltage (V)
Transmission (%)
Wavelength (nm)

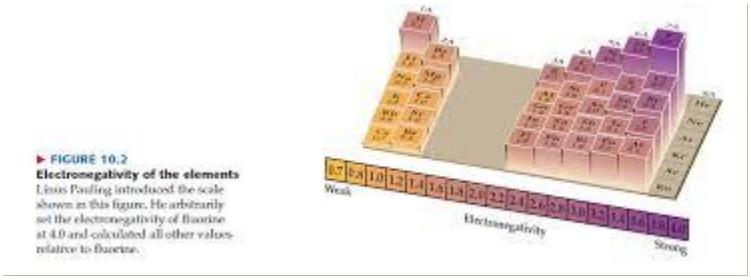


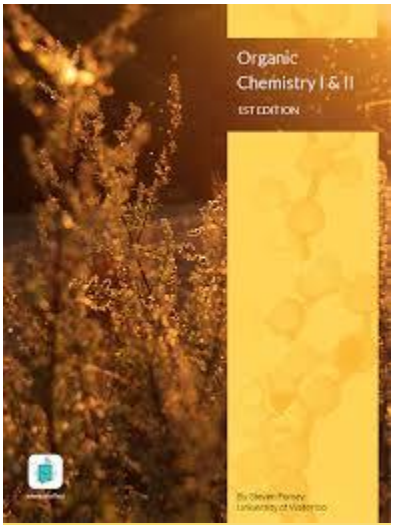



Ellagic Acid
Quinalizarin

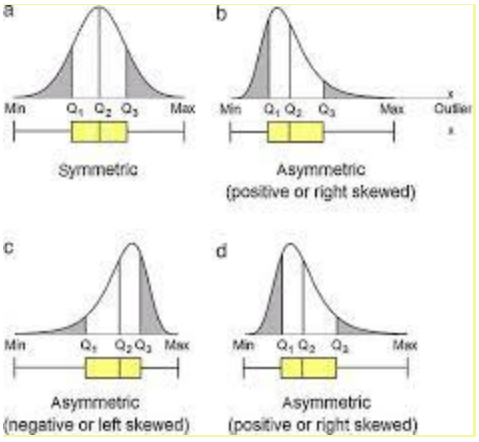


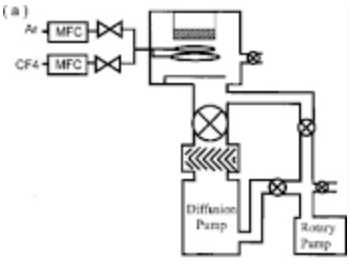

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Revision Notes. Flash Cards.
Test Yourself Activities. Powerpoints & much more
WELCOME TO NO BRAIN TOO SMALL -
DECEMBER 2016

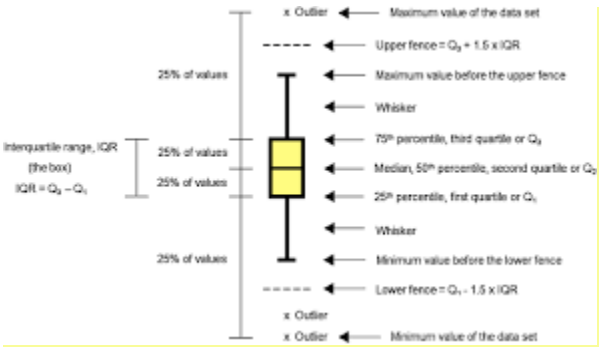

FIGURE 10.2
Electronegativity of the elements
Linus Pauling introduced the scale shown in this figure. He arbitrarily set the electronegativity of fluorine at 4.0 and calculated all other values relative to fluorine.
Weak
Electronegativity
Strong

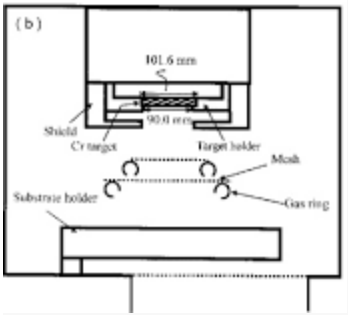

Organic
Chemistry I & II
1ST EDITION


ARDA

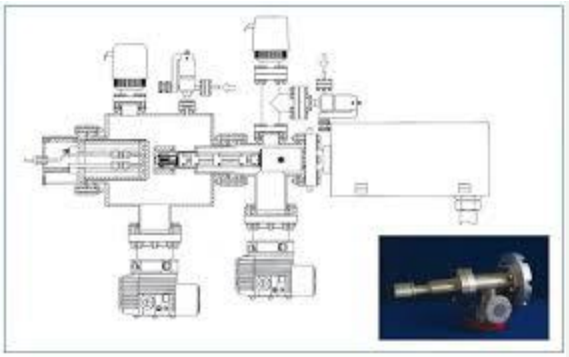

a
b
Min
Q1 Q2 Q3
Max
Outlier
Symmetric
Asymmetric
(positive or right skewed)
c
d
Asymmetric
(negative or left skewed)
Asymmetric
(positive or right skewed)


(a)
Ar
CF4
MFC
MFC
Diffusion Pump
Rotary Pump


x Outlier
Maximum value of the data set
Upper fence = Q3 + 1.5 x IQR
25% of values
Maximum value before the upper fence
Whisker
Interquartile range, IQR
(the box)
IQR = Q3 – Q1
75th percentile, third quartile or Q3
25% of values
Median, 50th percentile, second quartile or Q2
25% of values
25th percentile, first quartile or Q1
Whisker
25% of values
Minimum value before the lower fence
Lower fence = Q1 - 1.5 x IQR
x Outlier
x Outlier
Minimum value of the data set


(b)
101.6 mm
Shield
Cr target
Target holder
Mask
Substrate holder
Gas ring







Allred-Rochow Electronegativity Ref: Rulfery, J.E. Inorganic Chemistry : Harper & Row: New York, 1983

Ionic hydrides
Covalent polymeric hydrides
Covalent hydrides
Metallic hydrides



Elbing General Chemistry Student Solution Manual Ninth Edition

By Darrell Elbing, Steven D. Gammon

Elbing General Chemistry Student Solution Manual Ninth Edition Description:

Thoroughly updated and carefully accuracy-checked for the Ninth Edition, the Student Solution Manual provides worked out solutions to all in-chapter exercises, as well as detailed, step-by-step solutions to odd-numbered practice problems, general problems, and consulative-skills problems, plus answers to all self-assessment and review questions. Because the Concept Explorations and Strategy Problems are intended to challenge students to think step by step and not rush for a numerical answer (or a matched pair in model) an algorithmic answer again), the solutions for these are not provided in the text or Student Solutions Manual. The Student Solutions Manual has been thoroughly accuracy checked for the ninth edition. STUDENT DESCRIPTION: Thoroughly updated and carefully accuracy-checked for the Ninth Edition, the Student Solutions Manual provides worked out solutions to all in-chapter exercises, as well as detailed, step by step solutions to odd-numbered practice problems, general problems, and consulative-skills problems, plus answers to all self-assessment and review questions. Because the Concept Explorations and Strategy Problems are intended to challenge students to think step by step and not rush for a numerical answer (or a matched pair to model an algorithmic answer again), the solutions for these are not provided in the text or Student Solutions Manual. The Student Solutions Manual has been thoroughly accuracy checked for the ninth edition.

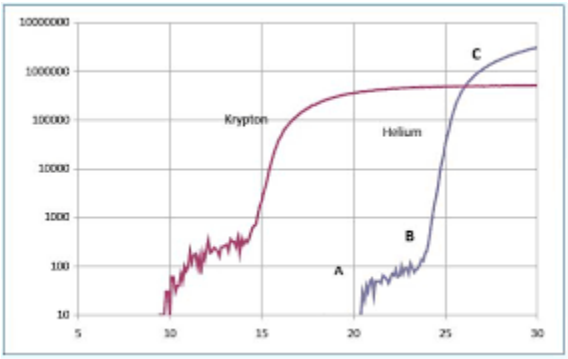
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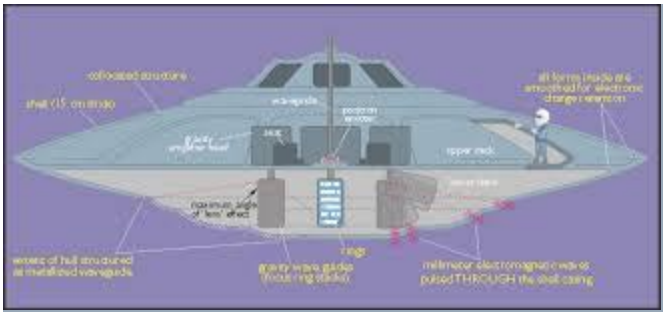
$$S_{\mathrm{E,int}} = \left(\prod S_{\mathrm{E},Z}^{\mathrm{v}}\right)^{\left(\sum x_i\right)^{-1}} \tag{1}$$

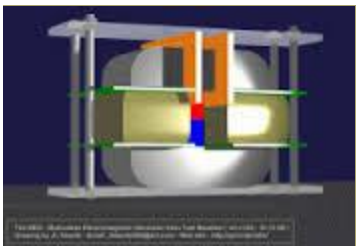
$$\Delta S_{\mathrm{E,O}} = 2.08\left(S_{\mathrm{E,O}}\right)^{1/2} \tag{2}$$

$$\left(\delta_{\mathrm{q}}\right)_{\mathrm{O}} - \frac{\left(S_{\mathrm{E,int}} \quad S_{\mathrm{E,O}}\right)}{\Delta S_{\mathrm{E,O}}} \tag{3}$$

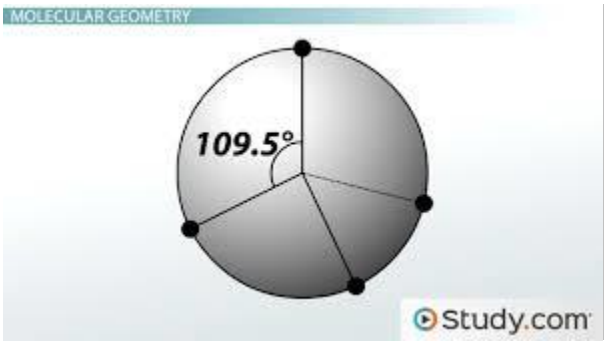


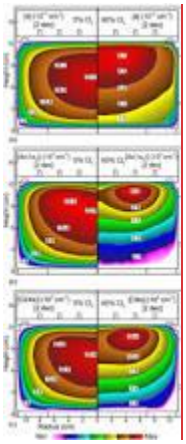


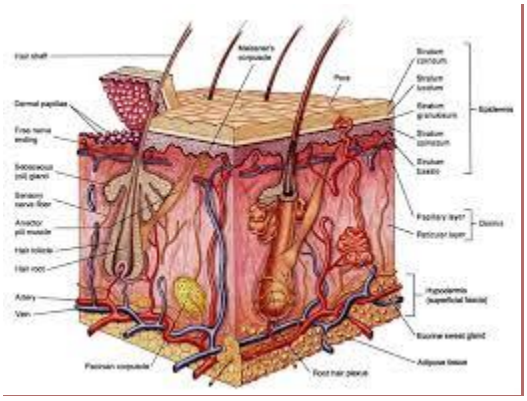

collocated structure
shell (15 cm thick)
waveguide
upper rack
rings
gravity wave guide
(inducing stress)
millimeter electromagnetic waves
pulsed THROUGH the shell casing

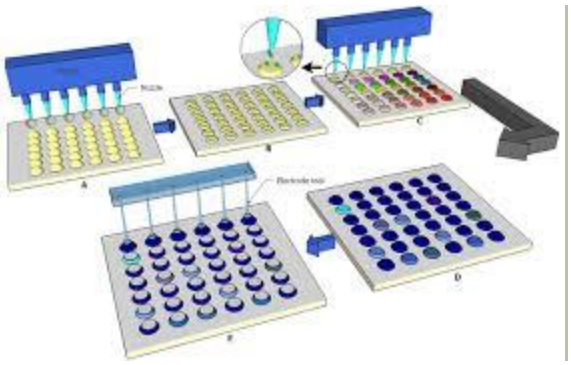


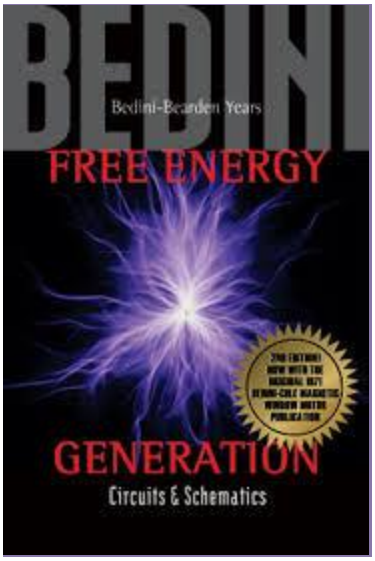

NON FICTION
READING
8 NO PREP
READY TO GO
SCIENCE
SUB PLANS

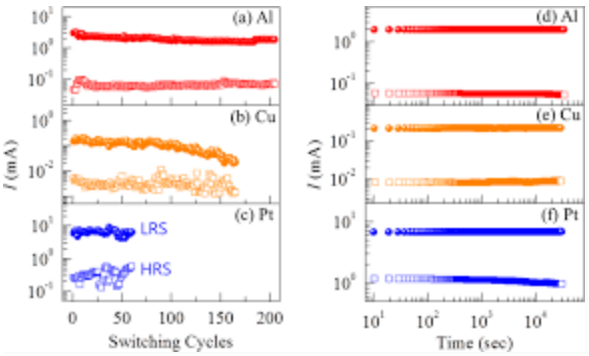

MOLECULAR GEOMETRY
109.5°
Study.com




Hair shaft
Dermal papillae
Free nerve ending
Sebaceous (oil) gland
Sensory nerve fiber
Arrector pili muscle
Hair follicle
Hair root
Artery
Vein
Pacinian corpuscle
Meissner's corpuscle
Pore
Stratum corneum
Stratum lucidum
Stratum granulosum
Stratum spinosum
Stratum basale
Epidermis
Papillary layer
Reticular layer
Dermis
Hypodermis (superficial fascia)
Eccrine sweat gland
Adipose tissue
Hair plexus

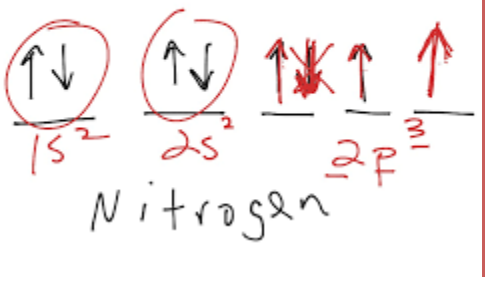



BEDINI
Bedini-Bearden Years
FREE ENERGY
GENERATION
Circuits & Schematics

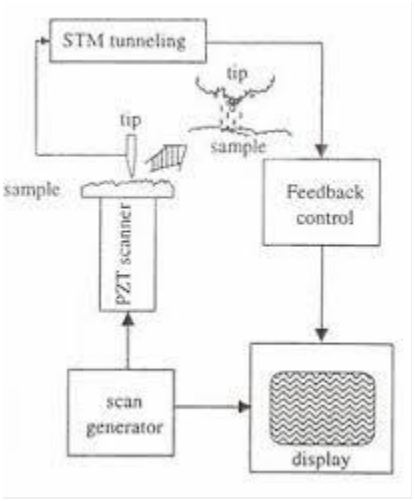

(a) Al
(b) Cu
(c) Pt
LRS
HRS
(d) Al
(e) Cu
(f) Pt
I (mA)
Switching Cycles
Time (sec)


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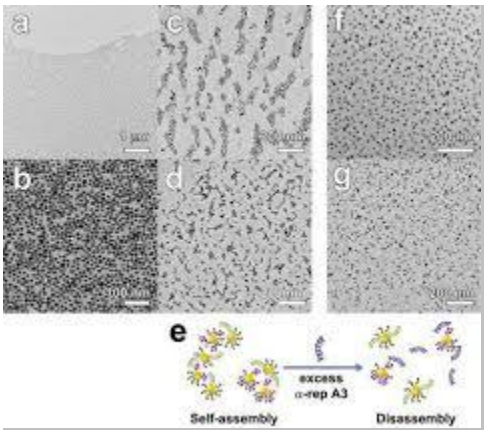

1s²
2s²
2p³
Nitrogen


Plotting Trends
FLINN SCIENTIFIC
Introduction
Concepts
Materials
Safety Precautions
Procedure

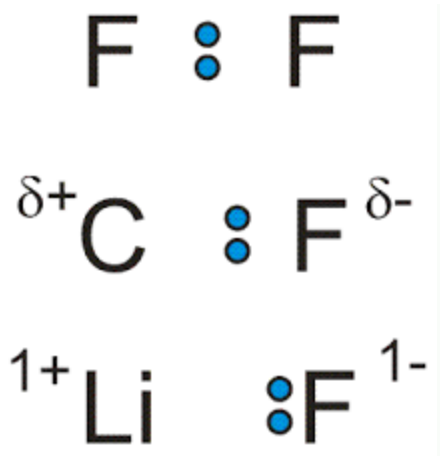

STM tunneling
tip
tip
sample
sample
Feedback control
PZT scanner
scan generator
display


Nboard


1

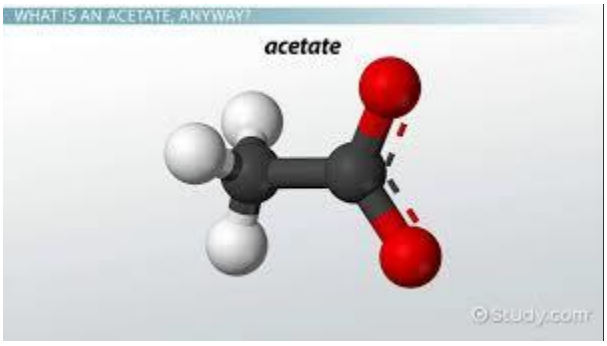

a
c
f
b
d
g
e
excess
α-rep A3
Self-assembly
Disassembly

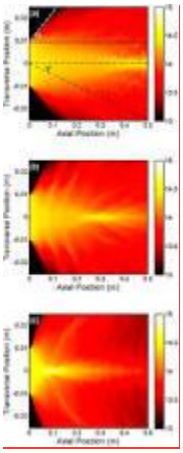

cone piece


F : F
δ+C : F δ-
1+Li :F 1-

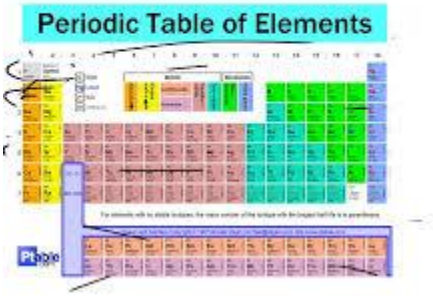

ONboard

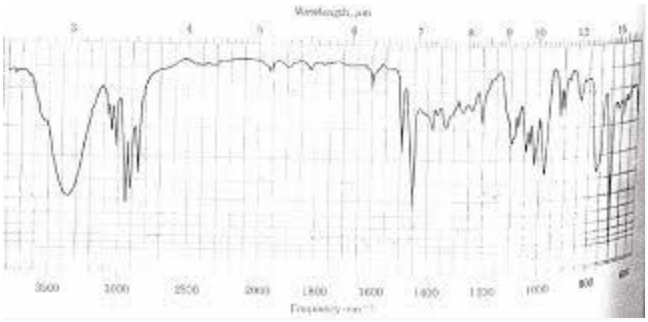

ONboard


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acetate
study.com

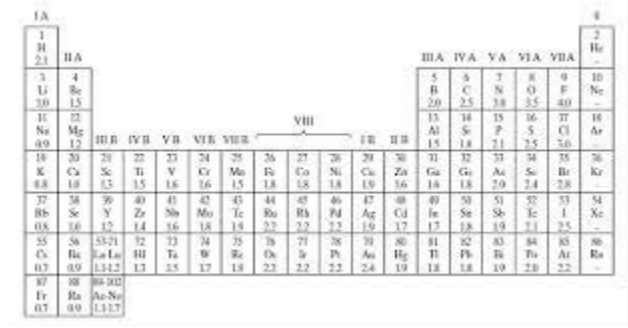



ONboard
The Scientific Method


Periodic Table of Elements

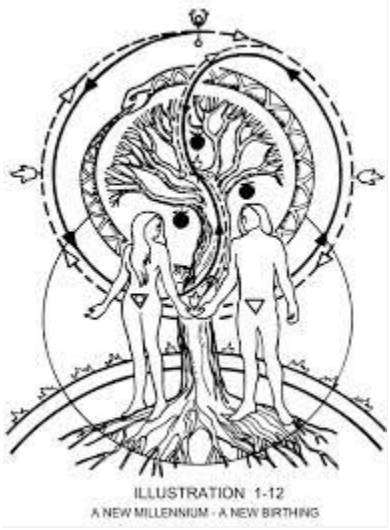


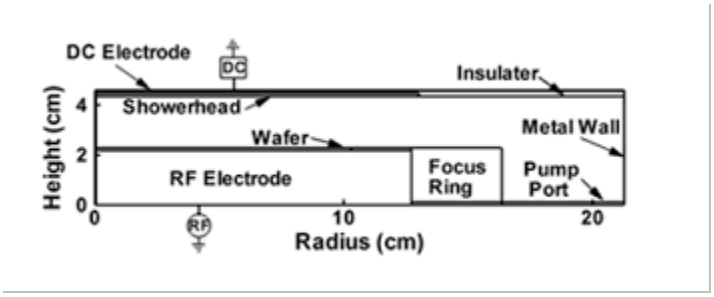


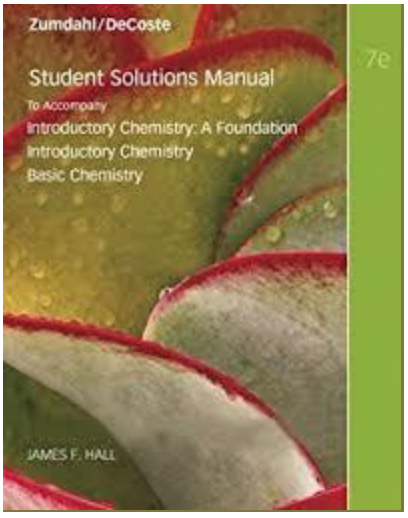


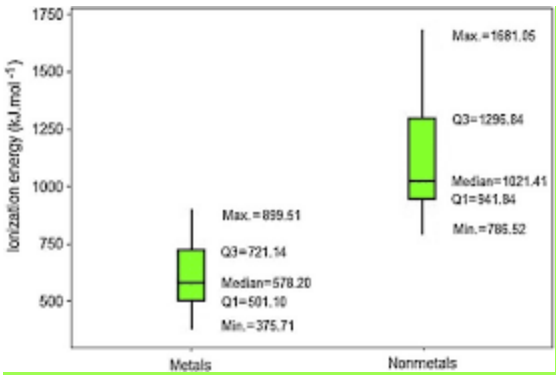
1A																	0
1 H 2.1	IIA											IIIA	IVA	VA	VIA	VIIA	2 He –
3 Li 1.0	4 Be 1.5											5 B 2.0	6 C 2.5	7 N 3.0	8 O 3.5	9 F 4.0	10 Ne –
11 Na 0.9	12 Mg 1.2	IIIB	IVB	VB	VIB	VIIB	VIII			IB	IIB	13 Al 1.5	14 Si 1.8	15 P 2.1	16 S 2.5	17 Cl 3.0	18 Ar –
19 K 0.8	20 Ca 1.0	21 Sc 1.3	22 Ti 1.5	23 V 1.6	24 Cr 1.6	25 Mn 1.5	26 Fe 1.8	27 Co 1.8	28 Ni 1.8	29 Cu 1.9	30 Zn 1.6	31 Ga 1.6	32 Ge 1.8	33 As 2.0	34 Se 2.4	35 Br 2.8	36 Kr –
37 Rb 0.8	38 Sr 1.0	39 Y 1.2	40 Zr 1.4	41 Nb 1.6	42 Mo 1.8	43 Tc 1.9	44 Ru 2.2	45 Rh 2.2	46 Pd 2.2	47 Ag 1.9	48 Cd 1.7	49 In 1.7	50 Sn 1.8	51 Sb 1.9	52 Te 2.1	53 I 2.5	54 Xe –
55 Cs 0.7	56 Ba 0.9	57-71 La-Lu 1.1-1.2	72 Hf 1.3	73 Ta 1.5	74 W 1.7	75 Re 1.9	76 Os 2.2	77 Ir 2.2	78 Pt 2.2	79 Au 2.4	80 Hg 1.9	81 Tl 1.8	82 Pb 1.8	83 Bi 1.9	84 Po 2.0	85 At 2.2	86 Rn –
87 Fr 0.7	88 Ra 0.9	89-102 Ac-No 1.1-1.7															



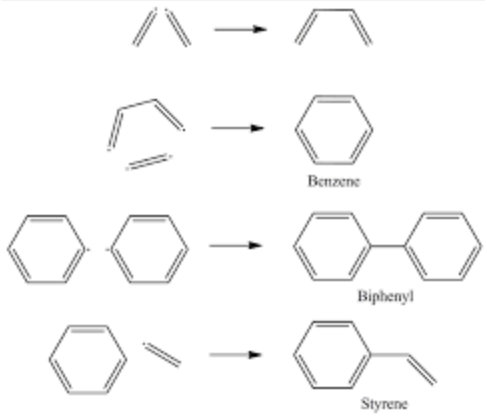




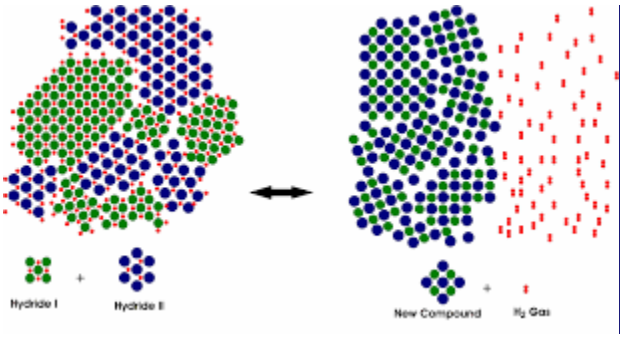




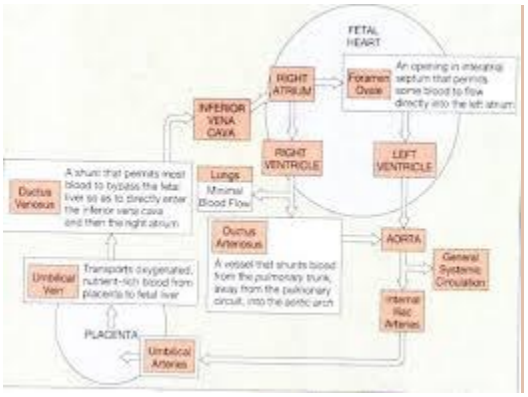

THE PERIODIC TABLE

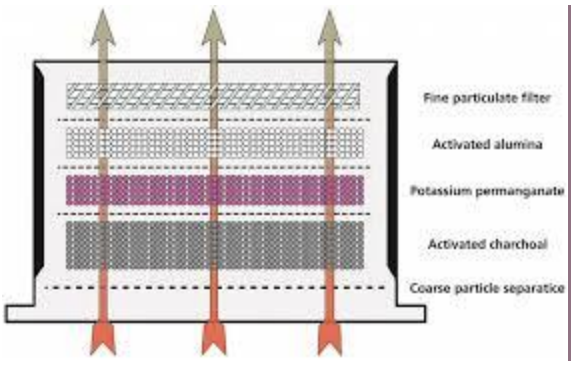

Benzene
Biphenyl
Styrene


CHEM FAX!
Atomic Radius
Ionization Energy
Electronegativity

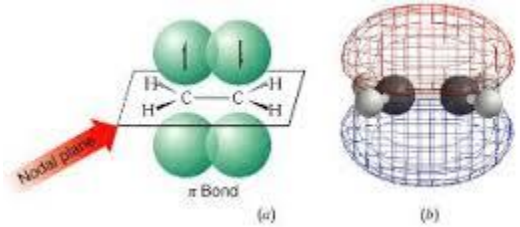

Hydride I
Hydride II
New Compound
H2 Gas

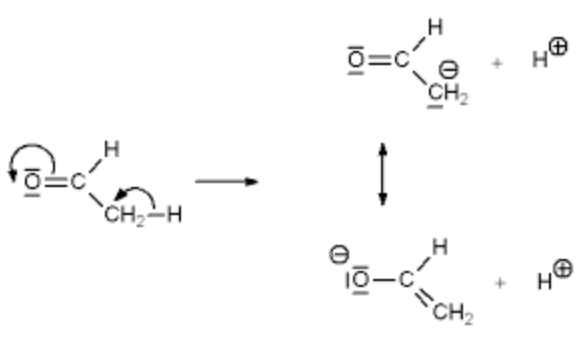


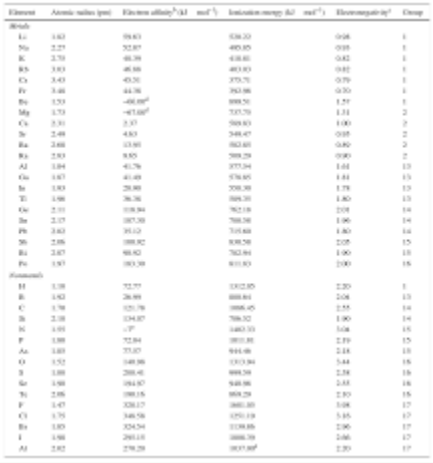

FETAL HEART
RIGHT ATRIUM
Foramen Ovale
An opening in interatrial septum that permits some blood to flow directly into the left atrium
INFERIOR VENA CAVA
RIGHT VENTRICLE
LEFT VENTRICLE
Ductus Venosus
A shunt that permits most blood to bypass the fetal liver so as to directly enter the inferior vena cava and then the right atrium
Lungs
Minimal Blood Flow
Ductus Arteriosus
AORTA
A vessel that shunts blood from the pulmonary trunk, away from the pulmonary circuit, into the aortic arch
General Systemic Circulation
Umbilical Vein
Transports oxygenated, nutrient-rich blood from placenta to fetal liver
Internal Iliac Arteries
PLACENTA
Umbilical Arteries

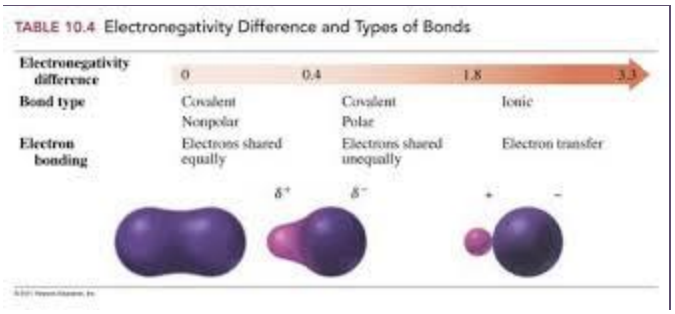

Fine particulate filter
Activated alumina
Potassium permanganate
Activated charcoal
Coarse particle separatice



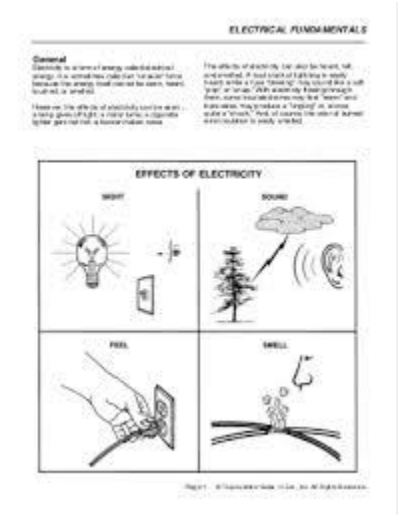

Nodal plane
π Bond
(a)
(b)

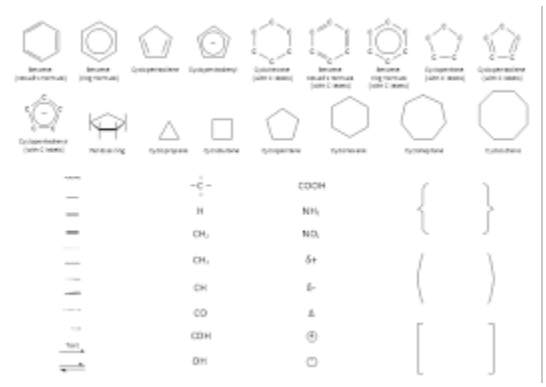




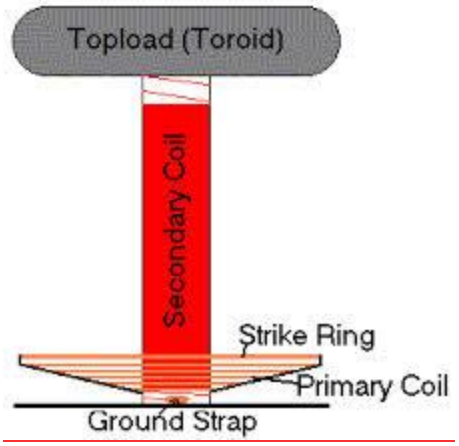

TABLE 10.4 Electronegativity Difference and Types of Bonds
Electronegativity difference
0
0.4
1.8
3.3
Bond type
Covalent
Nonpolar
Covalent
Polar
Ionic
Electron bonding
Electrons shared equally
Electrons shared unequally
Electron transfer

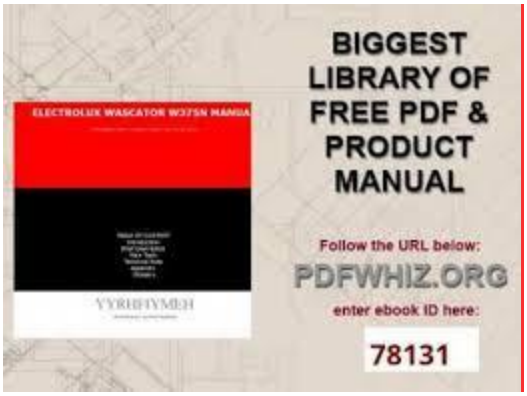

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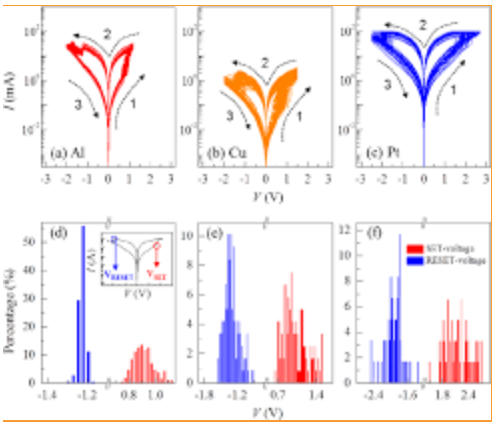

ELECTRICAL FUNDAMENTALS
General
EFFECTS OF ELECTRICITY
SIGHT
SOUND
FEEL
SMELL

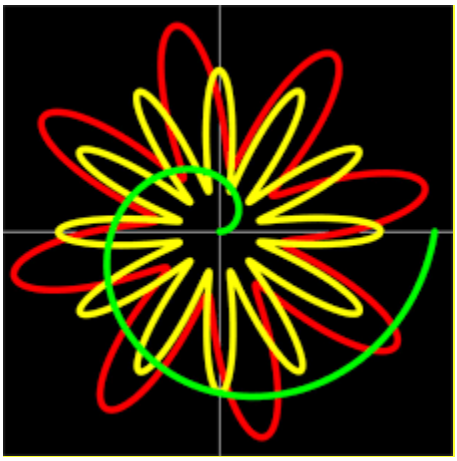


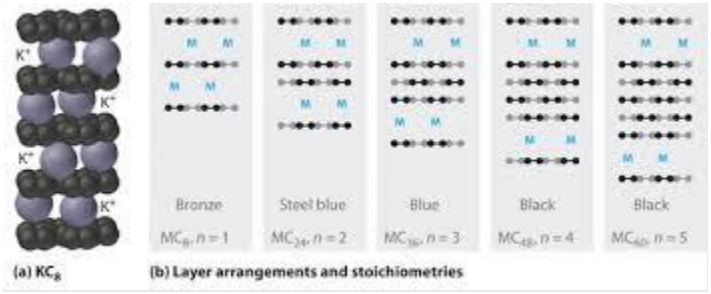

F5


Toploaд (Toroid)
Secondary Coil
Strike Ring
Primary Coil
Ground Strap



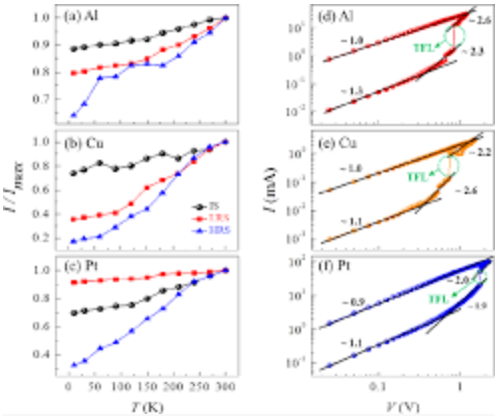


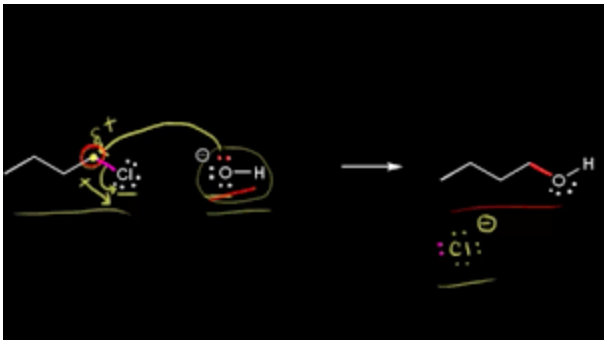




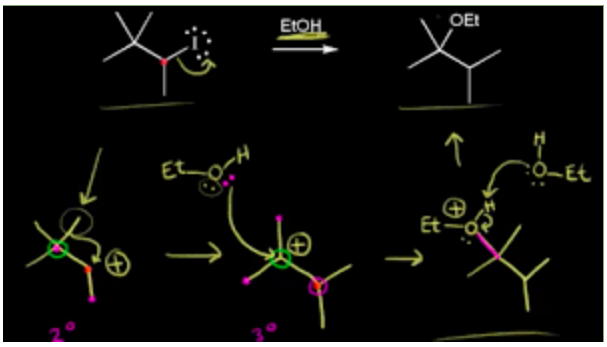


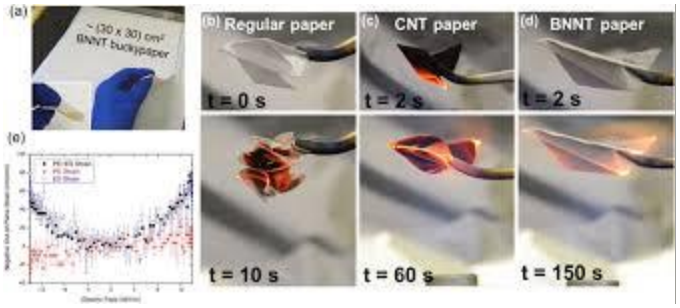
What are You going to Draw?

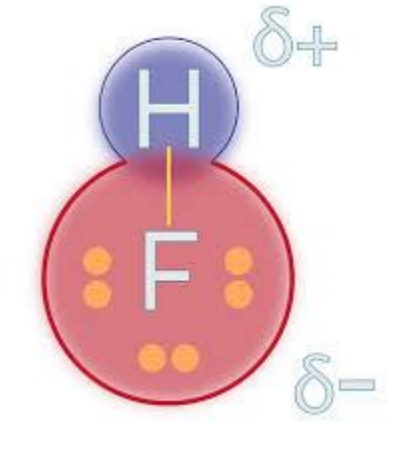


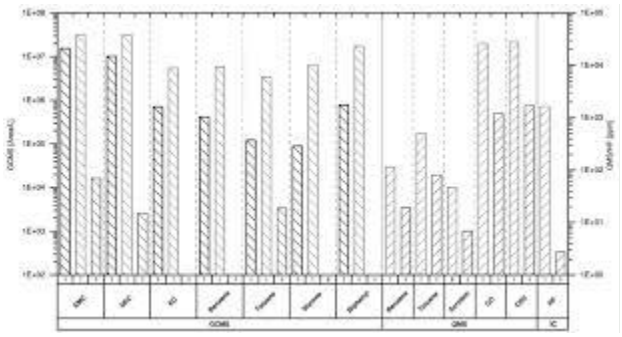




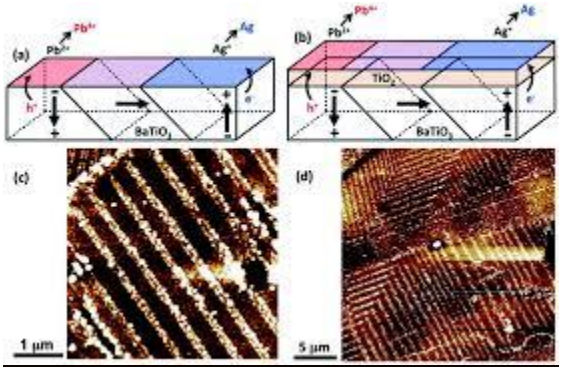


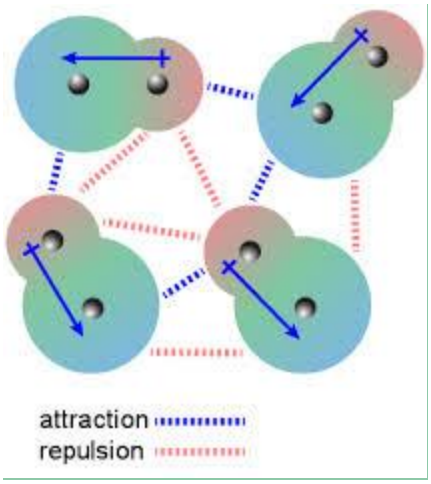




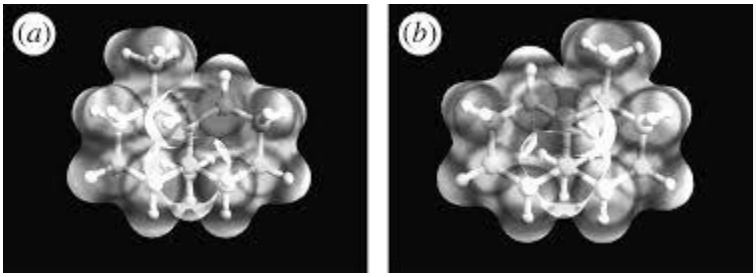


2-methylbutane	128	-160	150
neopentane	72	-17	9.5
2-methylpentane	72	-160	60
3-methylpentane	86	-163	63
2,2-dimetylbutane	86	-102	50
2,4-dimetylbutane	114	-92	110
3,3-dimetylbutane	114	-74	96
2-ethyl-3-methylpentane	114	-115	115
hexamethylethane	114	100	106











Theoretical explanation of the Biefeld-Brown Effect

Takaaki Musha

INTRODUCTION

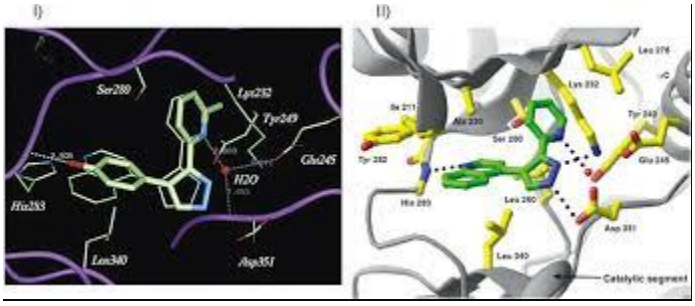
The finding of Prof.Biefeld and T.T.Brown, which is called Biefeld-Brown effect, suggests the coupling between electricity and gravitation. However this phenomenon can not be explained within the framework of the conventional physics. The author attempts to explain this phenomenon by introducing a new gravitational field generated by high potential electric field inside the atom. Some experimental results conducted to check the theoretical explanation are also presented.

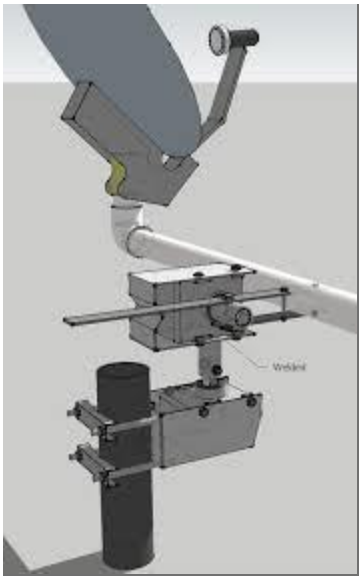
THEORETICAL CONSIDERRATION ON THE B-B EFFECT

To explain the B-B effect, the author proposed two hypothesis, Hypothesis(1) and Hypothesis(2), shown as follows:

Hypothesis(1) : Charged particle under strong electric field generates a new gravitational field Φ_A around itself.

Hypothesis(2) : Additional equivalent mass due to the electric field is canceled by negative mass generated by the new gravitational field.





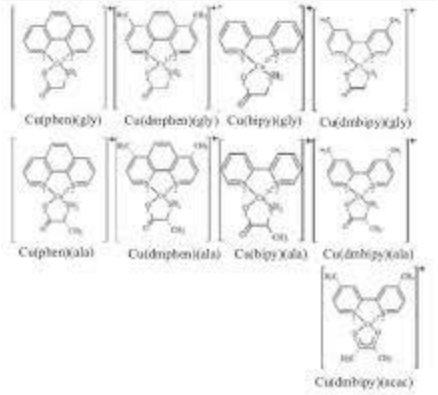


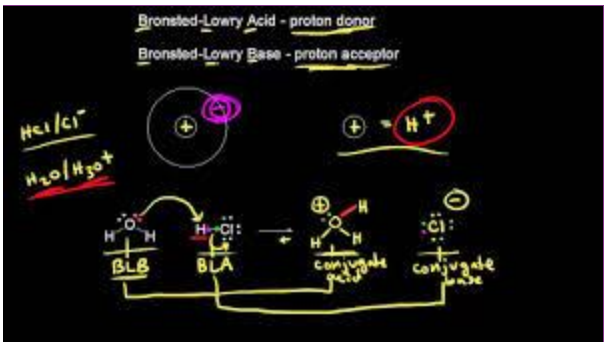
Fig. 1. A schematic representation of the compounds under study are shown. All the structures present one water molecule at the apical position, that is not included for simplicity.

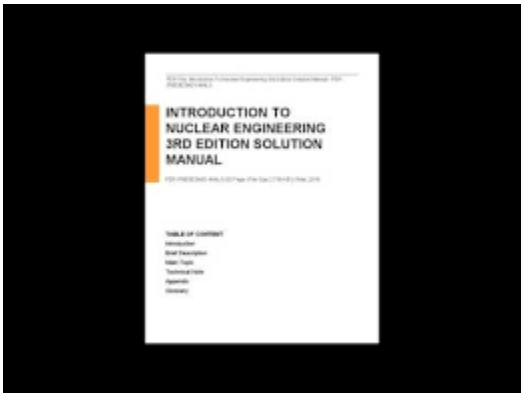


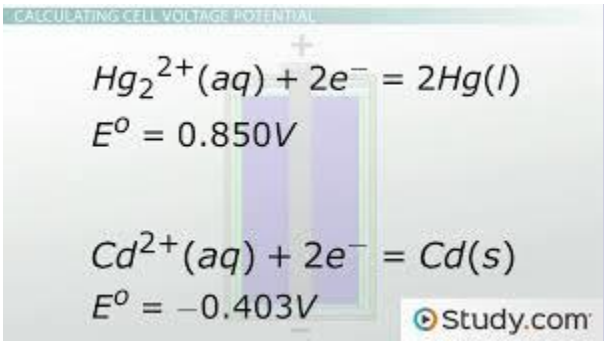


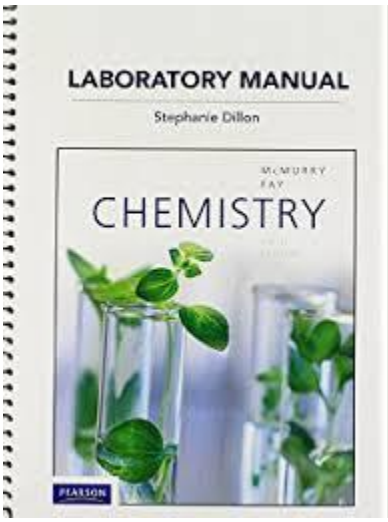


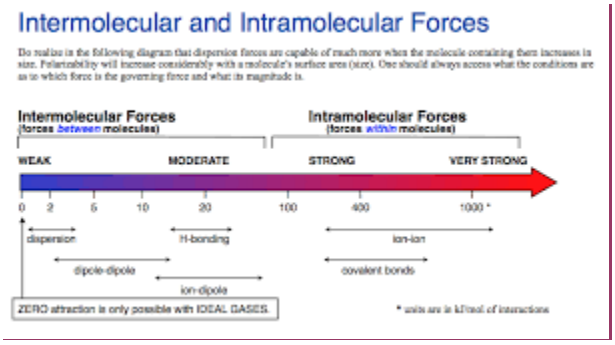

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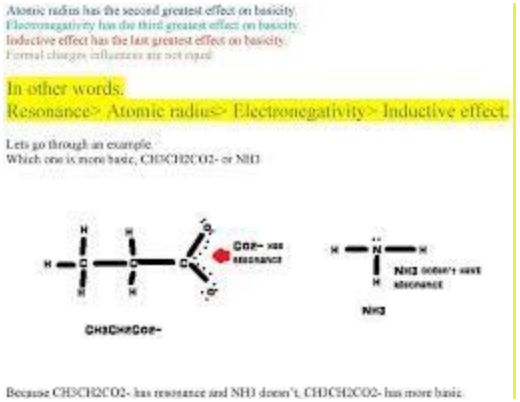

Bronsted-Lowry Acid - proton donor
Bronsted-Lowry Base - proton acceptor
HCl/Cl⁻
H2O/H3O+
BLB
BLA
conjugate acid
conjugate base


INTRODUCTION TO
NUCLEAR ENGINEERING
3RD EDITION SOLUTION
MANUAL

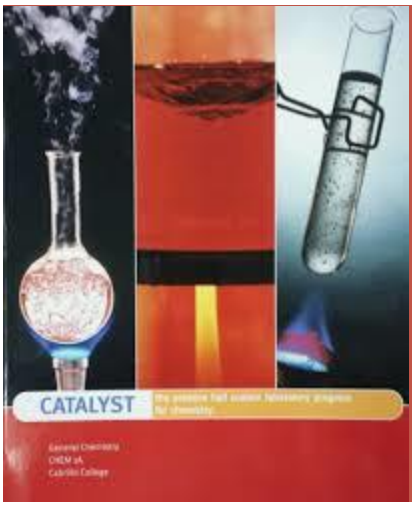

CALCULATING CELL VOLTAGE POTENTIAL
$Hg_2^{2+}(aq) + 2e^- = 2Hg(l)$
$E^o = 0.850V$
$Cd^{2+}(aq) + 2e^- = Cd(s)$
$E^o = -0.403V$
Study.com

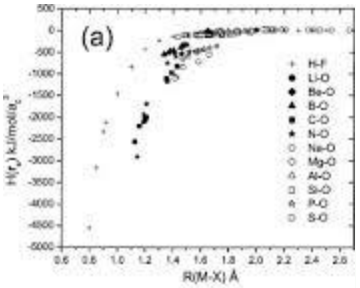

LABORATORY MANUAL
Stephanie Dillon
McMURRY
FAY
CHEMISTRY
PEARSON

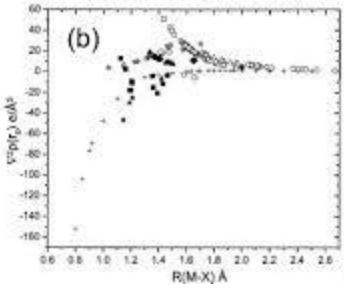

Intermolecular and Intramolecular Forces
Intermolecular Forces
(forces between molecules)
Intramolecular Forces
(forces within molecules)
WEAK
MODERATE
STRONG
VERY STRONG
0 2 5 10 20 100 400 1000 *
dispersion
H-bonding
ion-ion
dipole-dipole
covalent bonds
ion-dipole
ZERO attraction is only possible with IDEAL GASES
* units are in kJ/mol of interactions

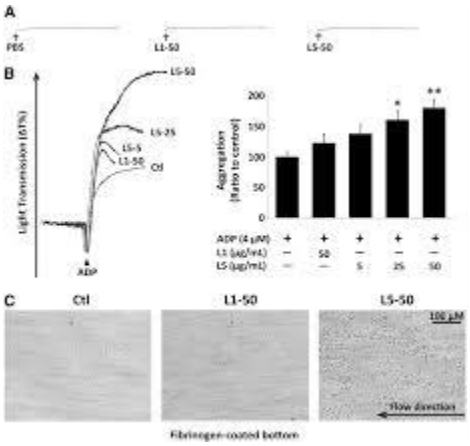

Atomic radius has the second greatest effect on basicity
Electronegativity has the third greatest effect on basicity
Inductive effect has the last greatest effect on basicity
Formal charges influences are not equal
In other words,
Resonance> Atomic radius> Electronegativity > Inductive effect.
Lets go through an example
Which one is more basic, CH3CH2CO2- or NH3
CH3CH2CO2-
NH3
Because CH3CH2CO2- has resonance and NH3 doesn't, CH3CH2CO2- has more basic.







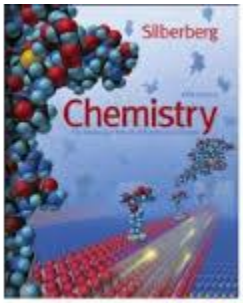






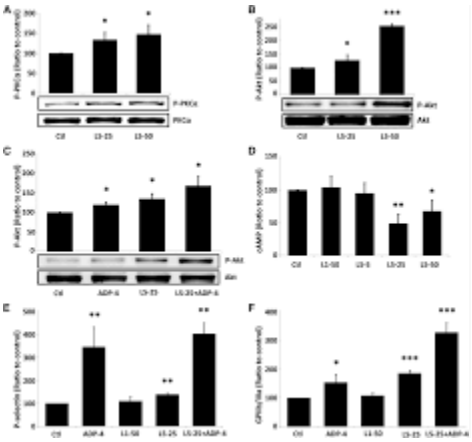
Computational insights into octyl-O-xylosides isomers toward understanding the liquid crystalline structure: physico-chemical features

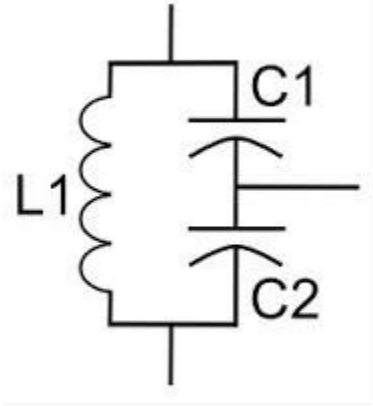
Supplementary Information

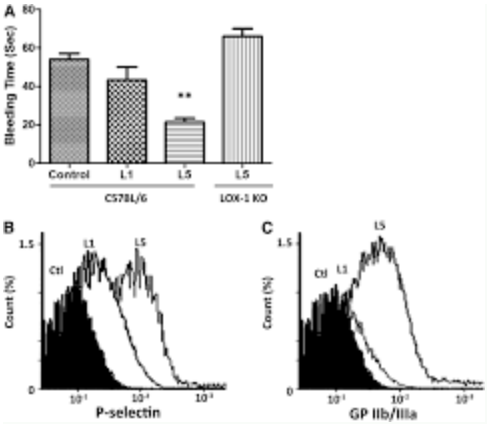


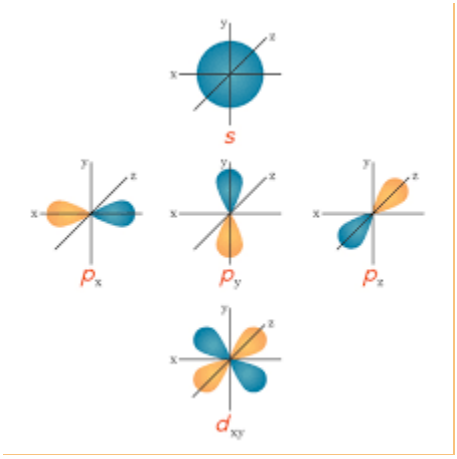
★★★★½ (173 Reviews)

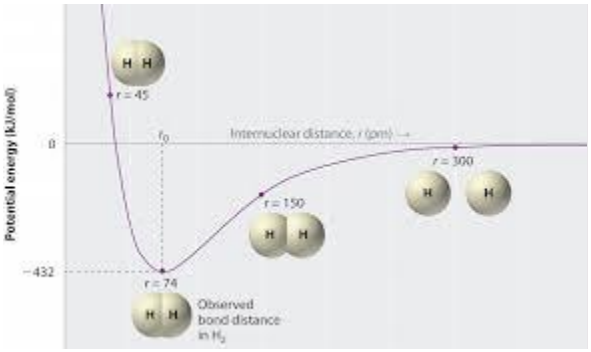
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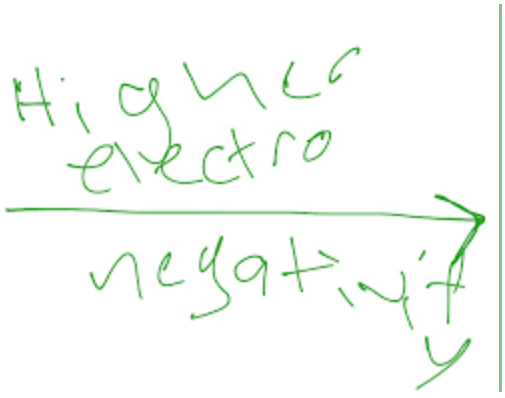


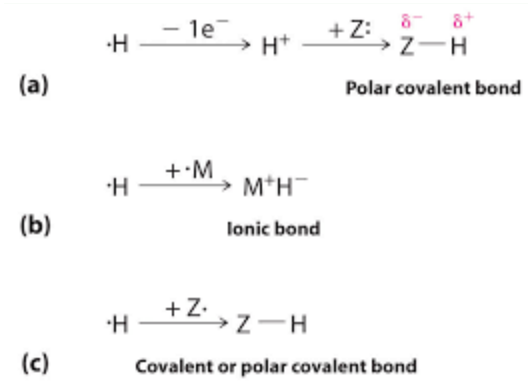



A
Bleeding Time (Sec)
Control
L1
L5
L5
C57BL/6
LOX-1 KO
**
B
Ctl
L1
L5
Count (%)
P-selectin
C
Ctl
L3
L5
Count (%)
GP IIb/IIIa

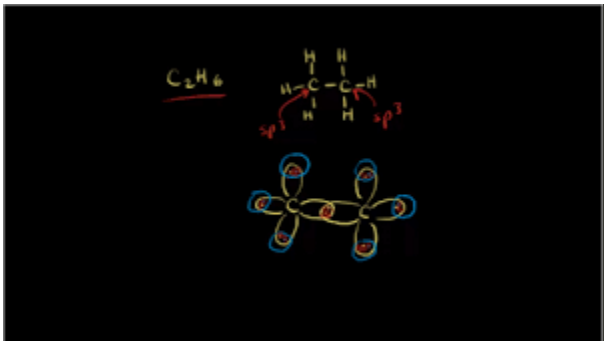

s
p_x
p_y
p_z
d_{xy}

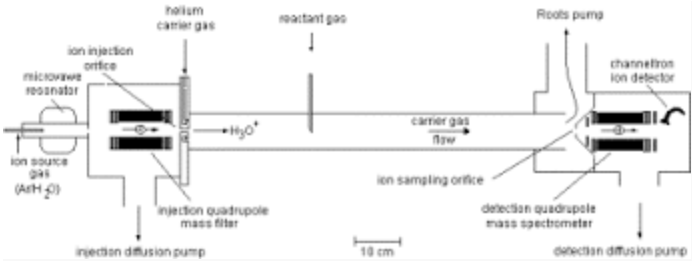

Potential energy (kJ/mol)
Internuclear distance, r (pm)
r = 45
r = 74
r = 150
r = 300
0
−432
Observed bond distance in H_2


Higher
electro
negativity


$\cdot H \xrightarrow{-1e^-} H^+ \xrightarrow{+Z:} Z^{\delta-}—H^{\delta+}$
(a)
Polar covalent bond
$\cdot H \xrightarrow{+\cdot M} M^+H^-$
(b)
Ionic bond
$\cdot H \xrightarrow{+Z\cdot} Z—H$
(c)
Covalent or polar covalent bond

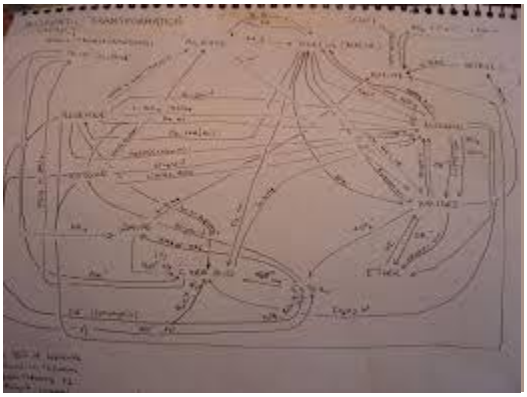


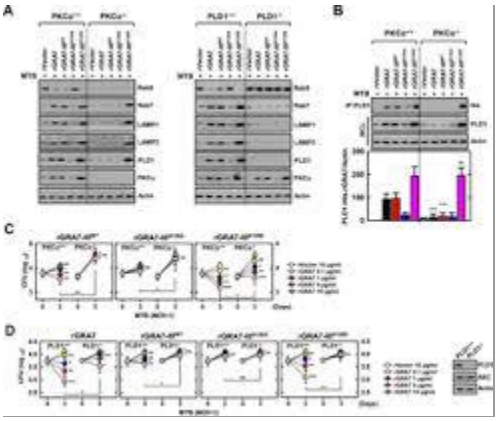

C_2H_6

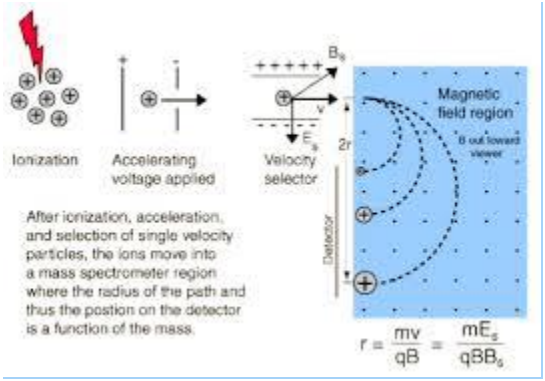

helium carrier gas
reactant gas
Roots pump
ion injection orifice
microwave resonator
channeltron ion detector
ion source gas (ArH^+, O_2)
H_3O^+
carrier gas flow
ion sampling orifice
injection quadrupole mass filter
detection quadrupole mass spectrometer
injection diffusion pump
10 cm
detection diffusion pump

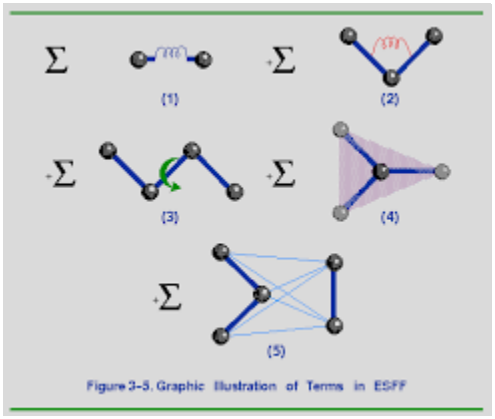


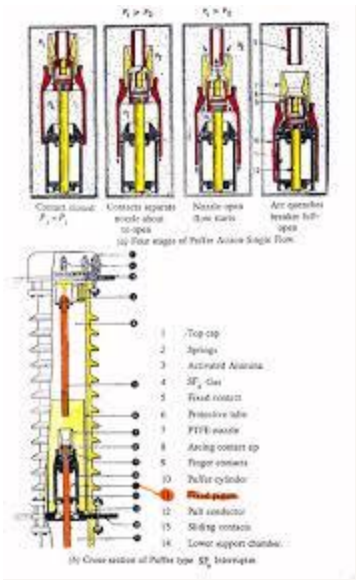


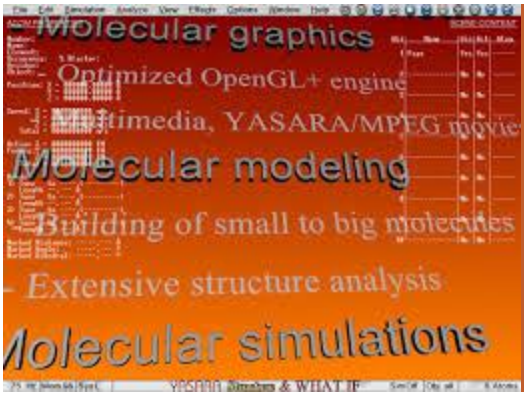


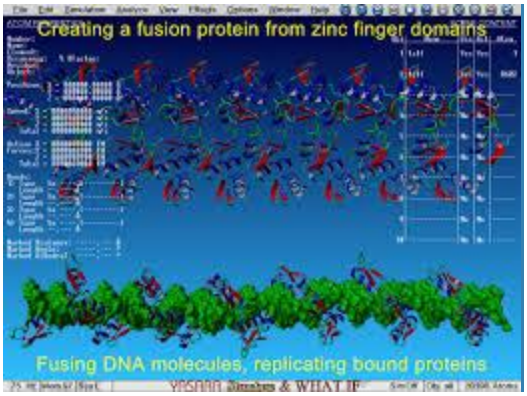

A
B
C
D

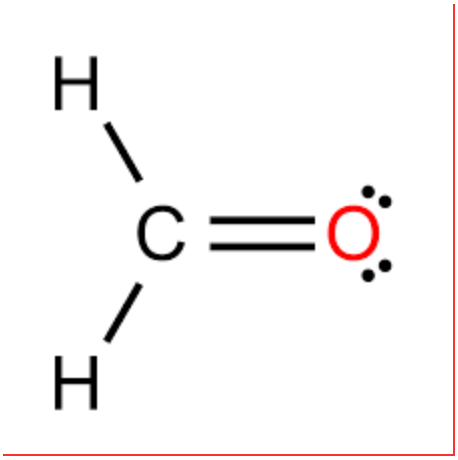

Ionization
Accelerating voltage applied
Velocity selector
Magnetic field region
B out toward viewer
Detector
After ionization, acceleration, and selection of single velocity particles, the ions move into a mass spectrometer region where the radius of the path and thus the postion on the detector is a function of the mass.
$r = \frac{mv}{qB} = \frac{mE_s}{qBB_s}$


(1)
(2)
(3)
(4)
(5)
Figure 3-5. Graphic Illustration of Terms in ESFF

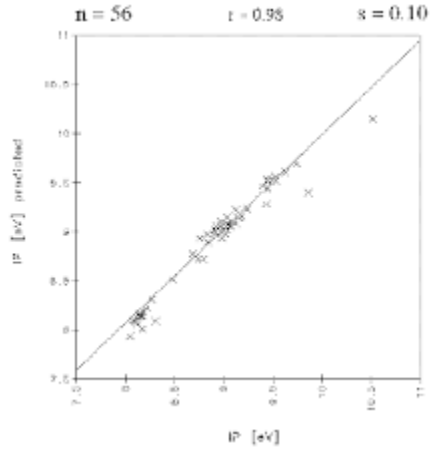


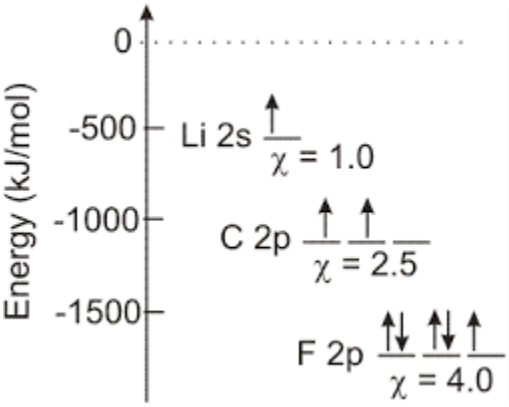

Molecular graphics
Optimized OpenGL+ engine
Molecular modeling
Building of small to big molecules
Extensive structure analysis
Molecular simulations


Creating a fusion protein from zinc finger domains
Fusing DNA molecules, replicating bound proteins

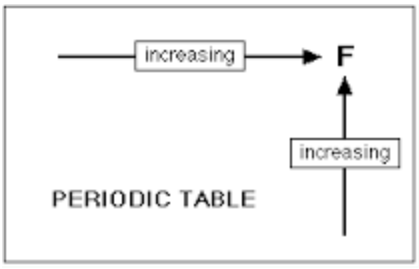

H
C
O
H

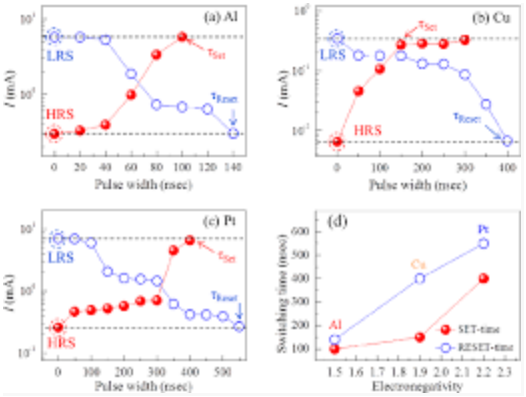

Alternative views of the scene

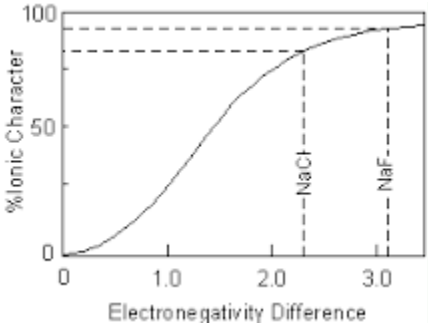

n = 56
r = 0.98
s = 0.10
IP [eV]

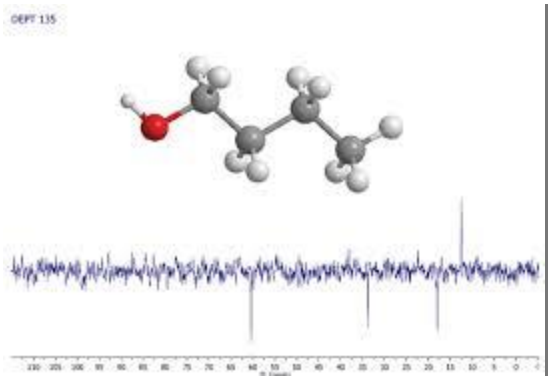

0
-500
-1000
-1500
Energy (kJ/mol)
Li 2s
χ = 1.0
C 2p
χ = 2.5
F 2p
χ = 4.0


Master
Periodicity
...with the help of a tutor
mytutor
Find out more

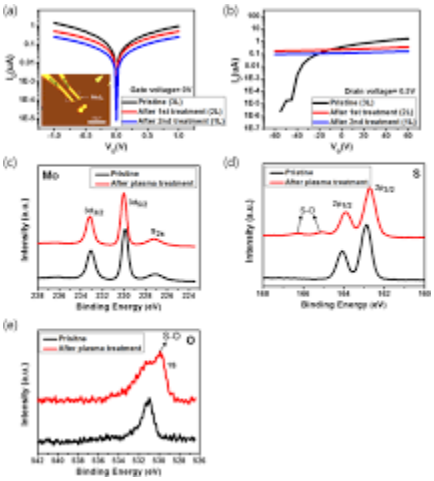

increasing
F
increasing
PERIODIC TABLE

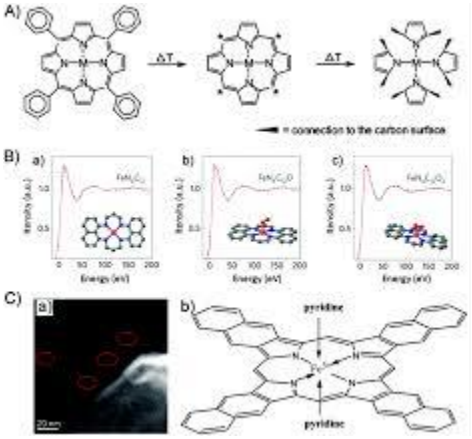

(a) Al
(b) Cu
(c) Pt
(d)
LRS
HRS
Pulse width (nsec)
Switching time (nsec)
Electronegativity
SET-time
RESET-time

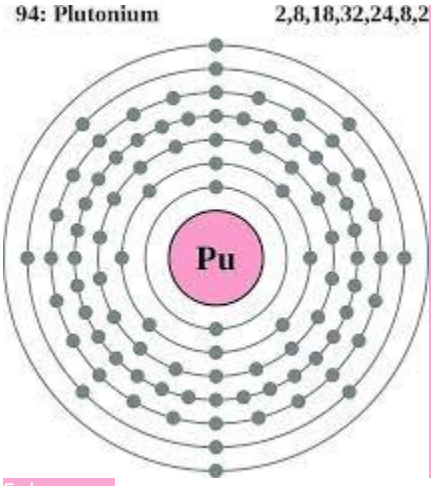

100
50
0
%Ionic Character
NaCl
NaF
0
1.0
2.0
3.0
Electronegativity Difference


DEPT 135


STEM
ACTIVITY
LIGHT CIRCUITS

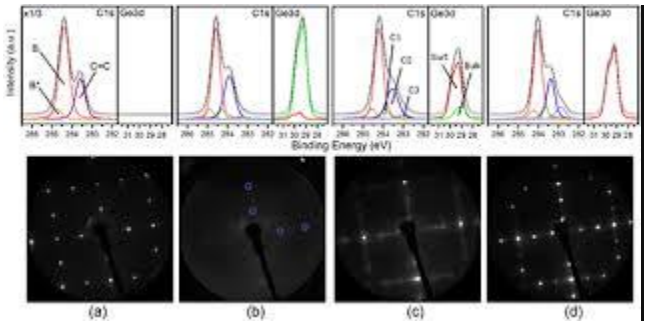


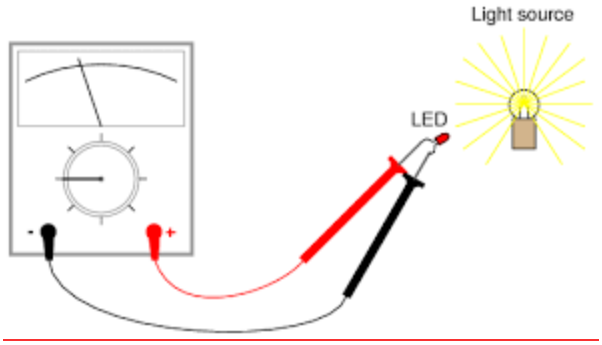

A)
ΔT
ΔT
= connection to the carbon surface
B)
a)
b)
c)
C)
a)
b)
pyridinic
pyridinic

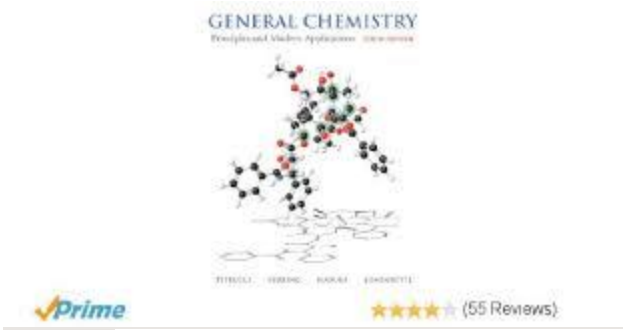

94: Plutonium
2,8,18,32,24,8,2
Pu

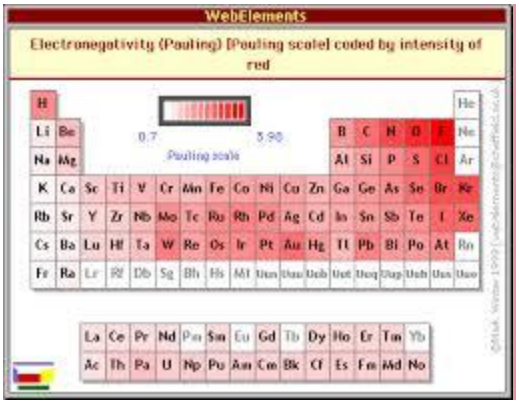
5 days ago

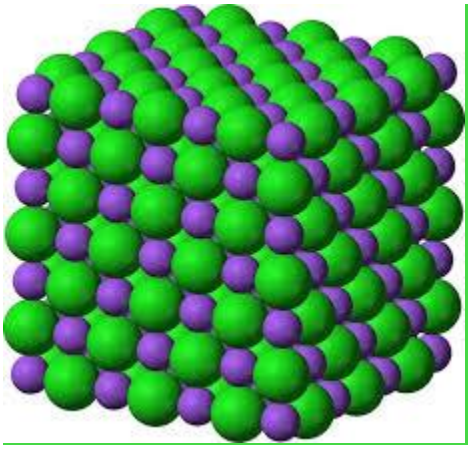

CURRICULUM
Castle
vinegar
soda
water
Candy Heart


Binding Energy (eV)
(a)
(b)
(c)
(d)

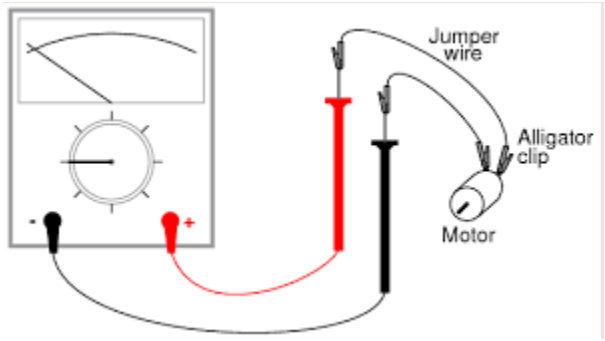

Light source
LED
-
+



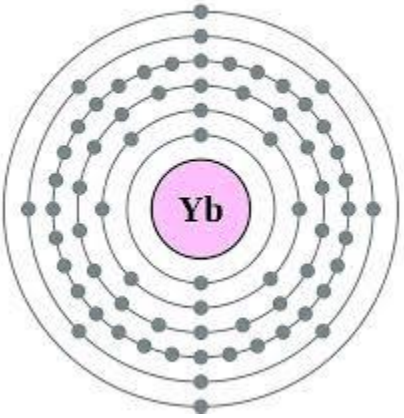


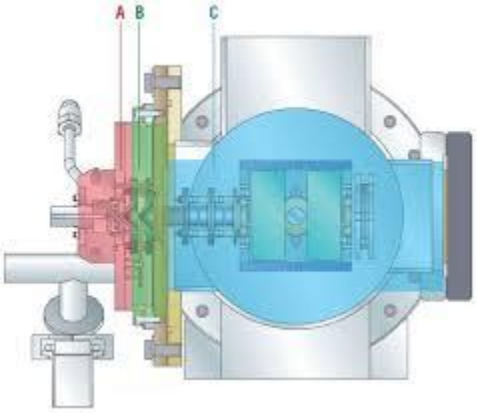


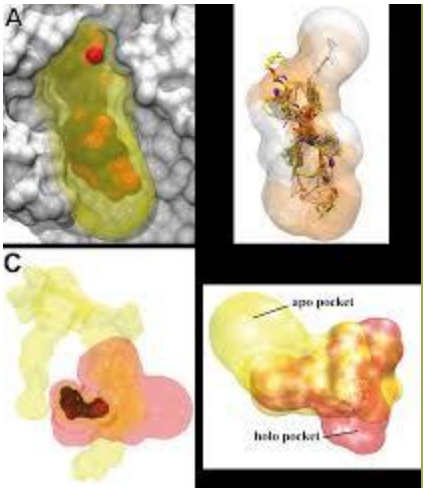


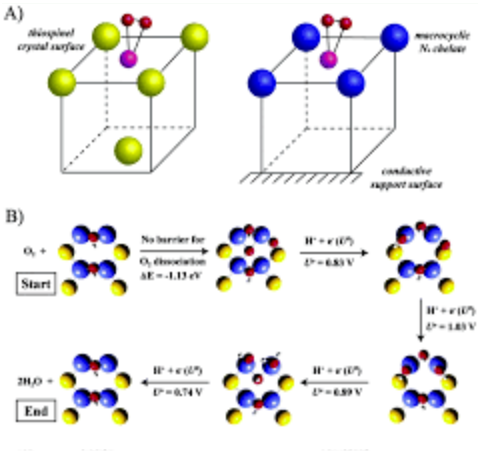


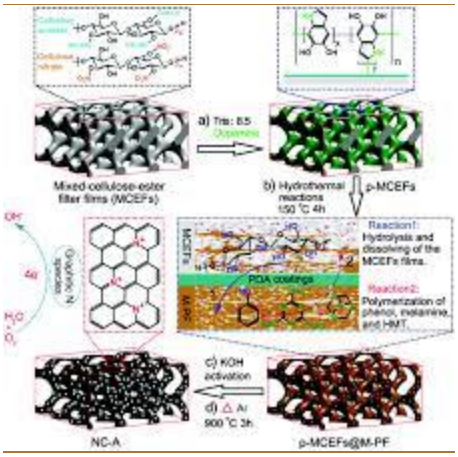
70: Ytterbium 2,8,18,32,8,2

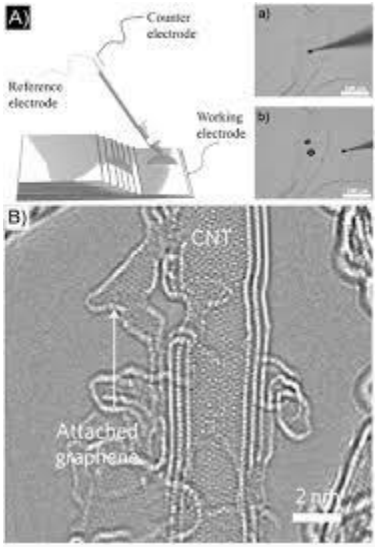






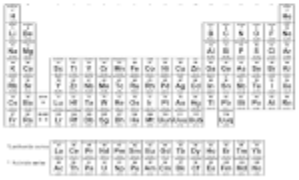


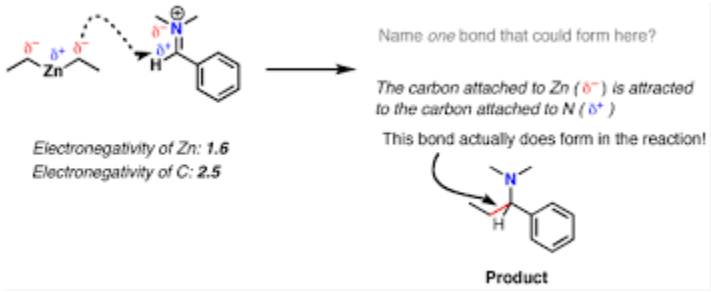


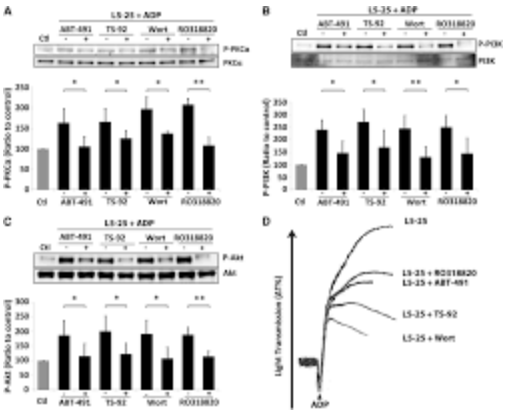


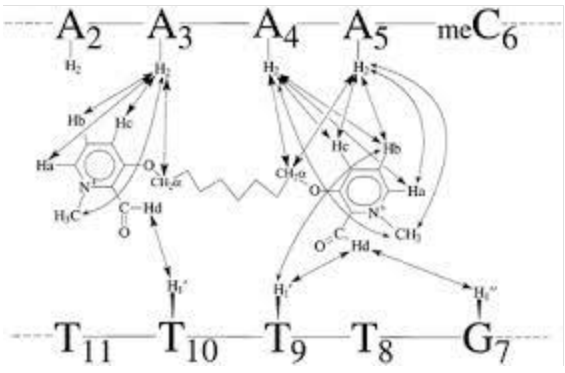
MONASH University
Science

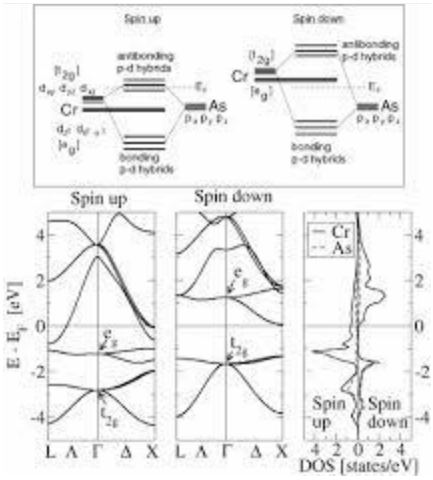
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CHM1011 Lab Manual
Chemistry I
2013

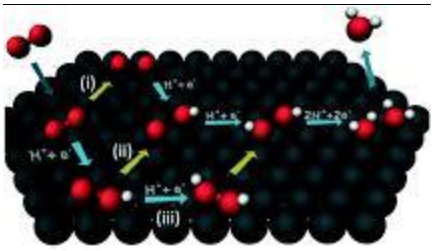




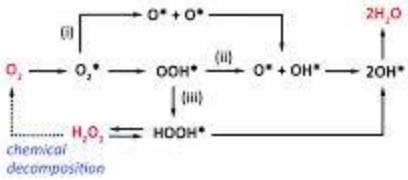


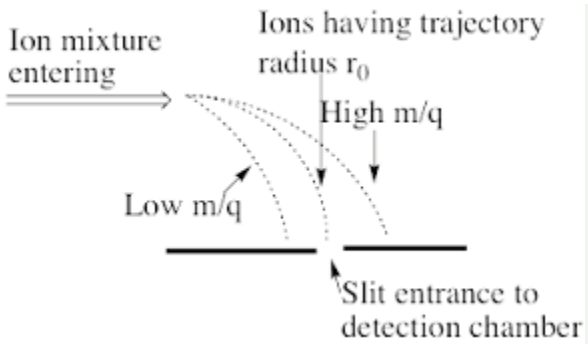


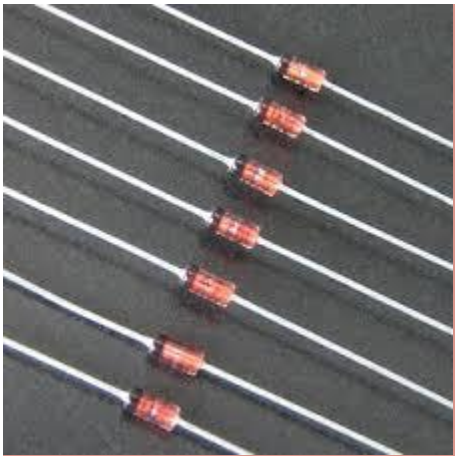




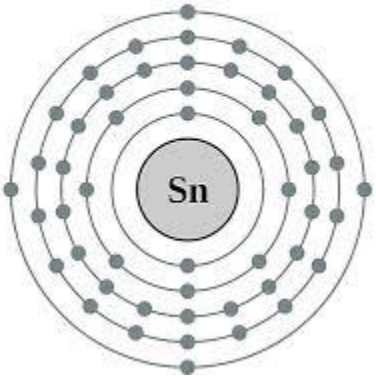
ORR pathways:



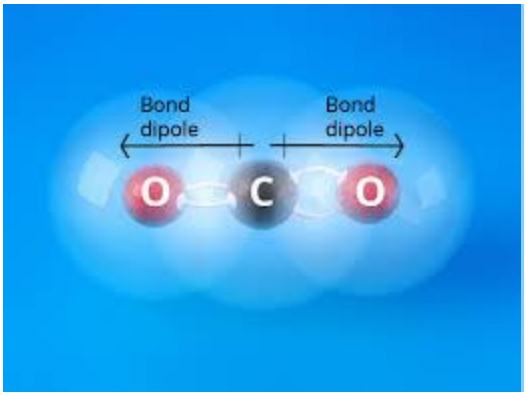


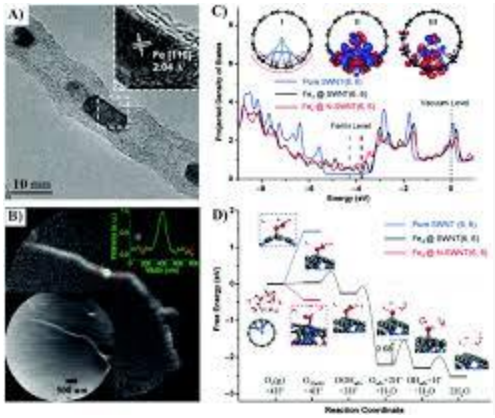


50: Tin **2,8,18,18,4**

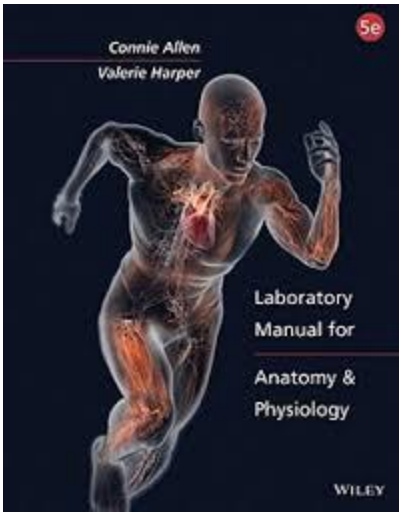




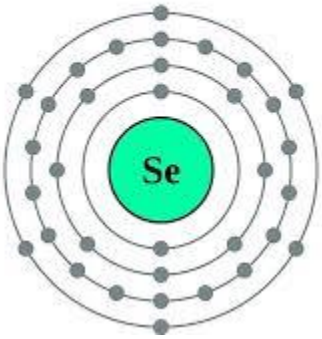


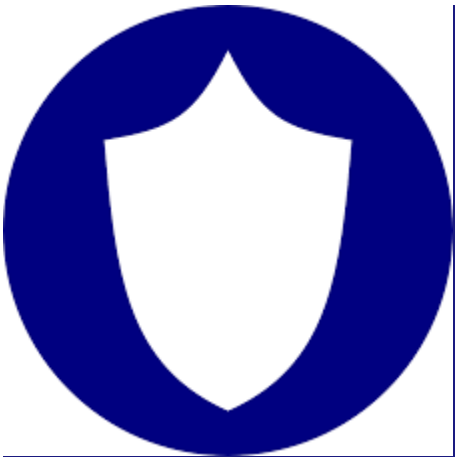


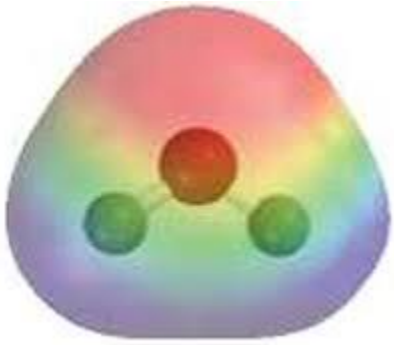




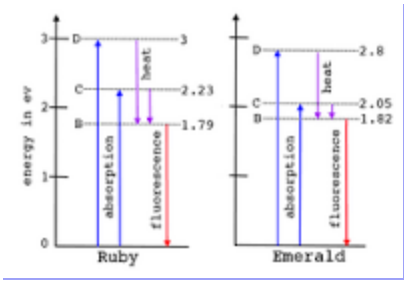
34: Selenium 2,8,18,6

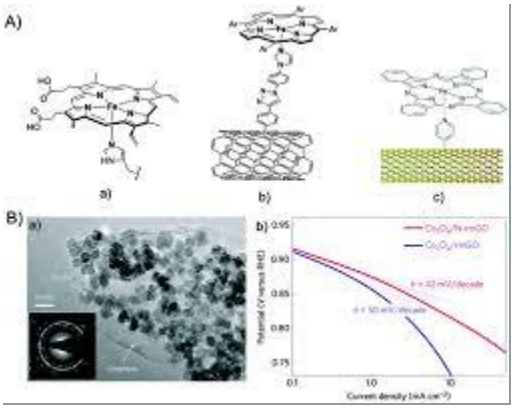




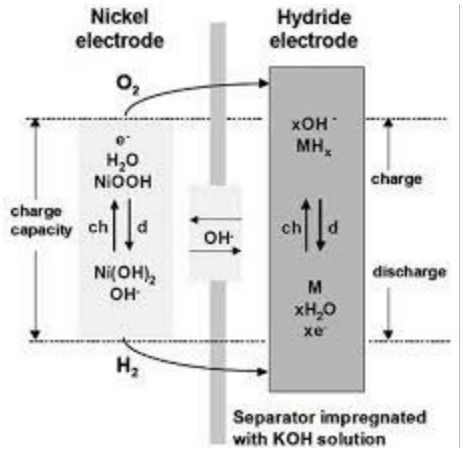


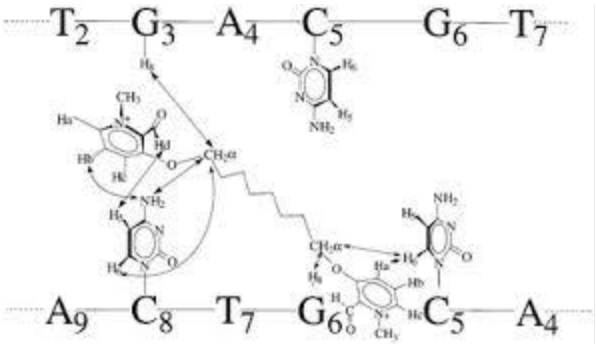
Water

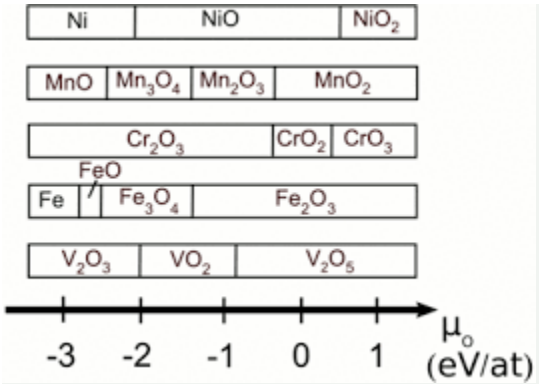


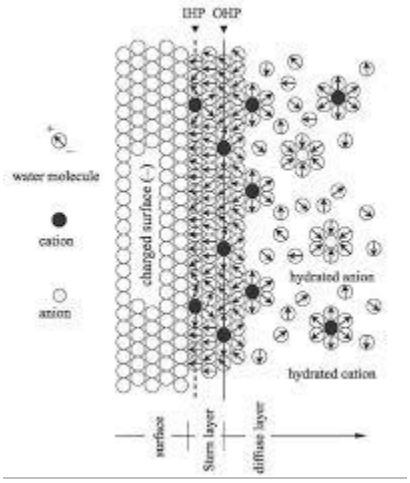


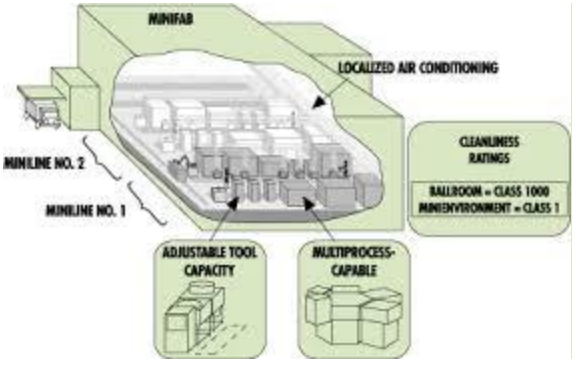












With the first survey in January 2013 we will need your support once by giving us these information for each of your coagulation survey you are participating in.

Depending on the survey group we will need the information as listed in the following table:

Group	Method	IDH Reagent Name	Producer (reagent)	Analyzer
G01		x	x	x
G02-1/3		x	x	x
G02-2	x	x	x	x
G03	x		x	x
G04	x		x	x
G05	x		x	x
G06	x	x	x	x
G07-1	x		x	x
G07-2/3	x		x	x
G07-1/2/3/4	x		x	x
G08	x	x	x	x
G09	x	x	x	x
G10	x	x	x	x
G11	x	x	x	x
G12	x	x	x	x
G13	x	x	x	x
G14/15/16		x	x	x
G17-1	x	x	x	x
G17-2	x	x	x	x
G17-3	x	x	x	x
G18	x	x	x	x
G19	x	x	x	x

You will find the new code of "Analyzer" and "Manufacturer" in this manual. All relevant codes for "Method" and "IDH" are listed on the protocol sheet. Please update your key code on the protocol sheet or with your online result report (preferable).

With the online report you can choose your code from drop-down-boxes. If your method/reagent/analyzer is not available, please choose "user defined" and type it as free text.

You will find a detailed instruction for online-reporting on our homepage.
(http://www.instandev.de/fileadmin/instand/downloads/anleitung.pdf)

Just for clarification, the new coding has to be done just once. With the following surveys your codes will be pre-printed. If you have changes to your coding, please inform us in advance.

kutsch@instand-ev.de or Fax +49 (0)5 7095-7401

Finally, we want to inform you that the entering of the online results contribute to a faster evaluation of the CCA schemes.

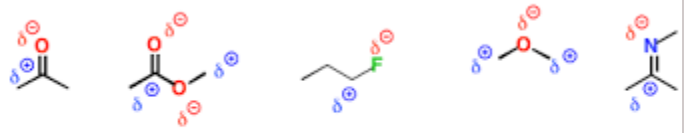
For questions regarding the new coding system or online reporting please contact Ms. Marleen Kutsch: Phone +49 (0) 7095-4402 or email: kutsch@instand-ev.de

With best regards

Your INSTAND Team



3. *Dipole-dipole interactions*



- Dipoles created by differences in electronegativities
- Interaction between dipoles is attractive
- Similar to H-bonding, but C is more electronegative (2.5) than H (2.2). Therefore - magnitude of dipoles are smaller

CHAPTER 2

The Chemistry of Microbiology

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Chapter Outline

Atoms (pp. 27–29)
Ionization
Isotopes
Electron Configuration
Chemical Bonds (pp. 29–34)
Nonpolar Covalent Bonds
Polar Covalent Bonds
Ionic Bonds
Hydrogen Bonds
Chemical Reactions (pp. 34–35)
Synthesis Reactions
Decomposition Reactions
Exchange Reactions
Water, Acids, Bases, and Salts (pp. 36–39)
Water
Acids and Bases
Salts
Organic Macromolecules (pp. 39–51)
Functional Groups
Lipids
Carbohydrates
Proteins
Nucleic Acids

Chapter Summary

Atoms (pp. 27–29)



EXPERIMENT 2

Techniques for Isolation of Pure Cultures

[redacted]

Equipment

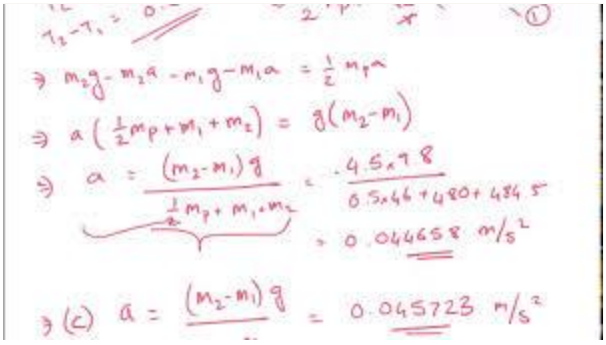
Materials

Cultures

PART A

PART B

Media





When two different types of atom are bonded together, they do not share their bond electrons equally. This is because each type of atom possesses its own charge environment, which produces an atom's electronegativity.

Electronegativity is a measure of the tendency of an atom to attract a bonding pair of electrons.

the term "electronegativity" was introduced by Jöns Jacob Berzelius in 1811.

For example:

- Sodium seeks to give an electron to become a positive ion, Na^+. It has a very low electronegativity.
- Iodine wants to gain an electron to become a negative ion, I^-. It has a relatively high electronegativity.

An atom's electronegativity is affected by both its atomic number and the distance at which its valence electrons reside from the charged nucleus. The higher the associated electronegativity number, the more an element or compound attracts electrons towards it.

Variation along the period

Due to the increased nuclear charge across the period, the electronegative or non-metallic character increases in going from left to right in a period.

Variation down the group

Due to the increased atomic size the non-metallic or electronegative character decreases as we go down the group.

Electronegativity is however not the property of an isolated atom.

Factors Affecting Electronegativity

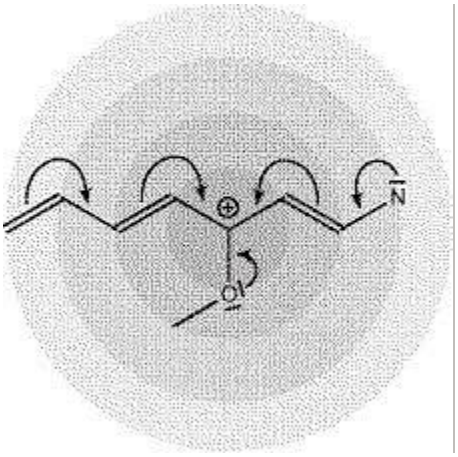
Atomic size

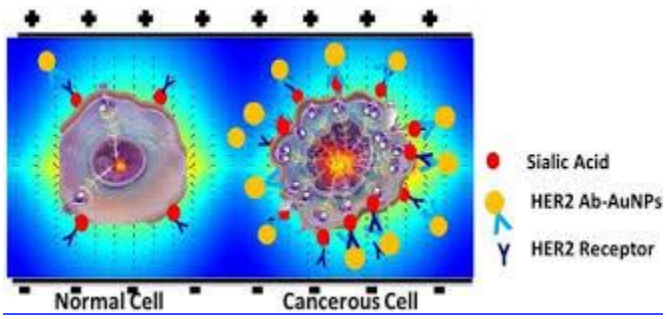
As the size of the atom decreases it has greater tendency to attract the bonding electrons towards itself. Therefore smaller atoms have higher electronegativity values than the larger ones.

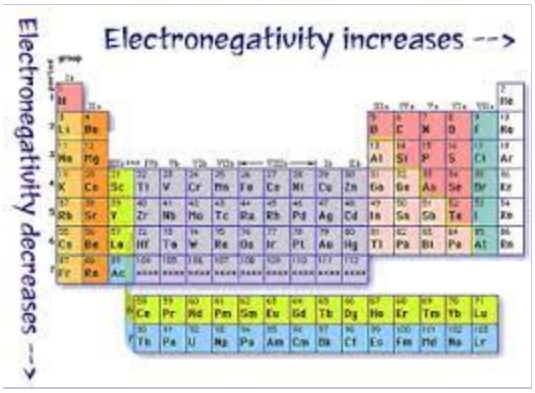
Ionisation energy and electron affinity

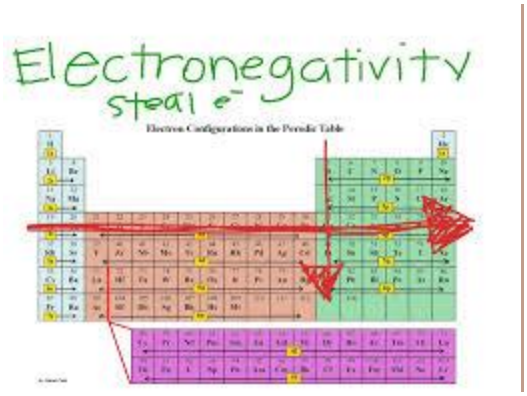
Higher ionisation energy and electron affinity lead to higher electronegativity.

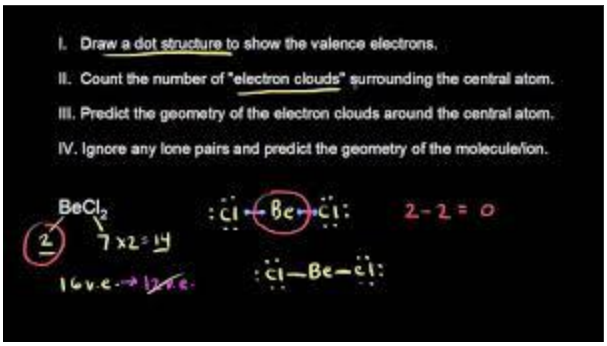
Number and nature of atoms

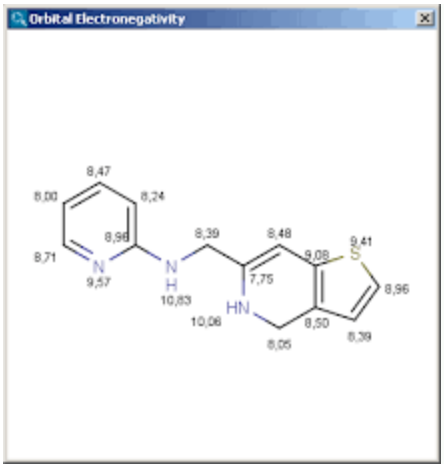


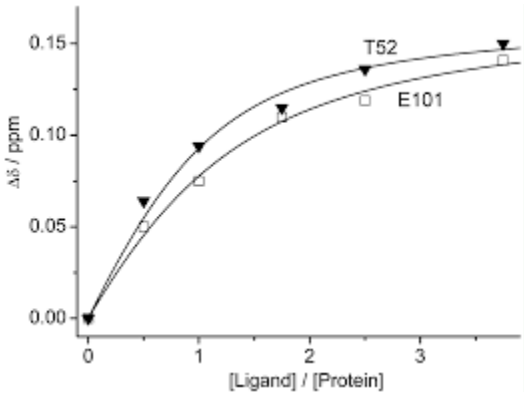


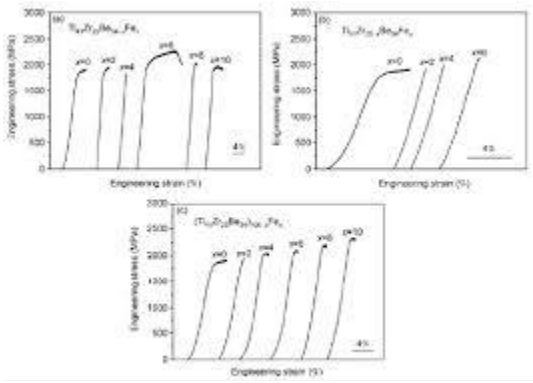


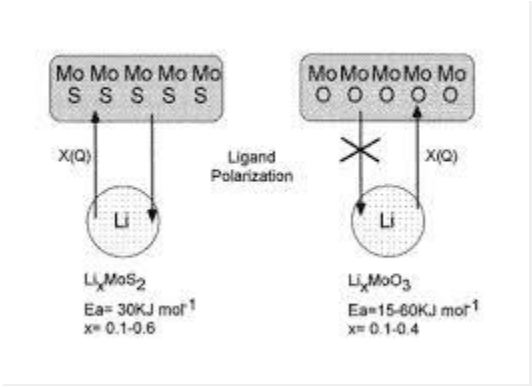


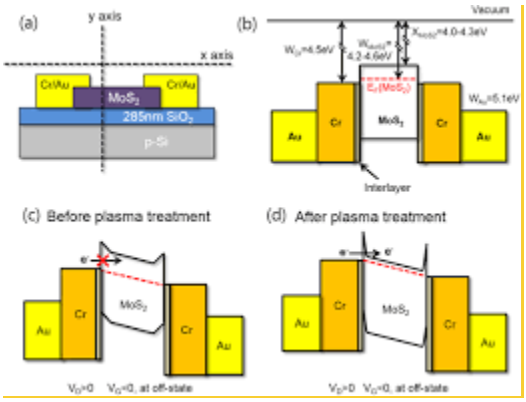

I. Draw a dot structure to show the valence electrons.
II. Count the number of "electron clouds" surrounding the central atom.
III. Predict the geometry of the electron clouds around the central atom.
IV. Ignore any lone pairs and predict the geometry of the molecule/ion.
BeCl2
2
7 x 2 = 14
16 v.e. → 12 v.e.
2 - 2 = 0

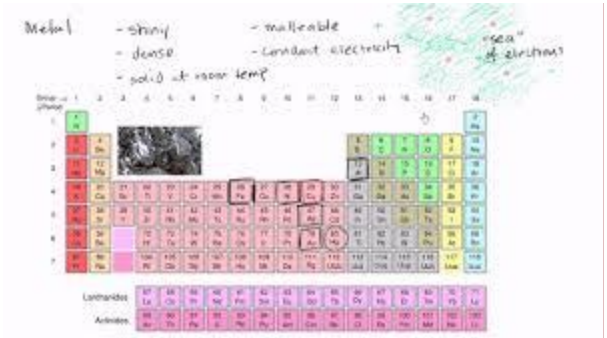

Orbital Electronegativity
8,47
8,00
8,24
8,96
8,71
8,39
8,48
9,41
9,08
9,57
7,75
8,96
10,83
10,06
8,50
8,39
8,05

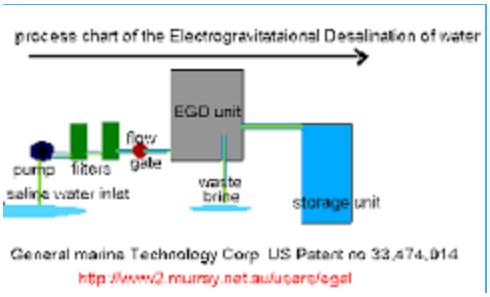

0.15
0.10
0.05
0.00
Δδ / ppm
T52
E101
0
1
2
3
[Ligand] / [Protein]

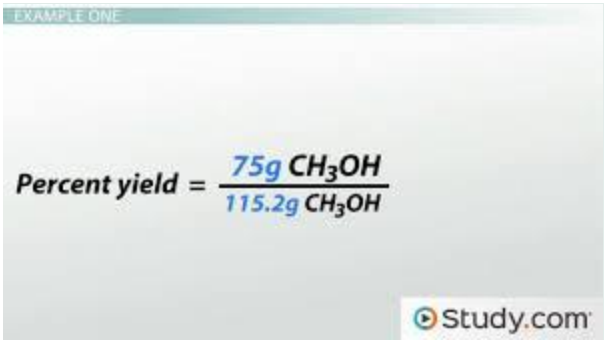


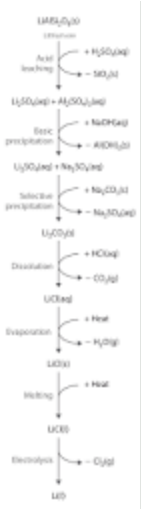

Mo Mo Mo Mo Mo
S S S S S
Mo Mo Mo Mo Mo
O O O O O
X(Q)
Li
Ligand Polarization
X(Q)
Li
LixMoS2
Ea= 30KJ mol-1
x= 0.1-0.6
LixMoO3
Ea=15-60KJ mol-1
x= 0.1-0.4

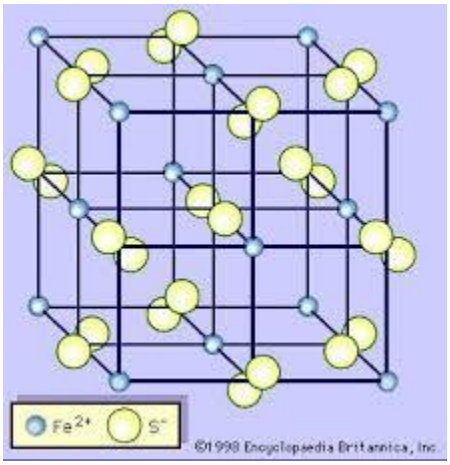

(a)
y axis
x axis
Cr/Au
Cr/Au
MoS2
285nm SiO2
p-Si
(b)
Vacuum
W0=4.5eV
4.2-4.6eV
Au
Cr
MoS2
Cr
Au
Interlayer
(c) Before plasma treatment
(d) After plasma treatment
Au
Cr
MoS2
Cr
Au
V0>0
V0=0, at off-state

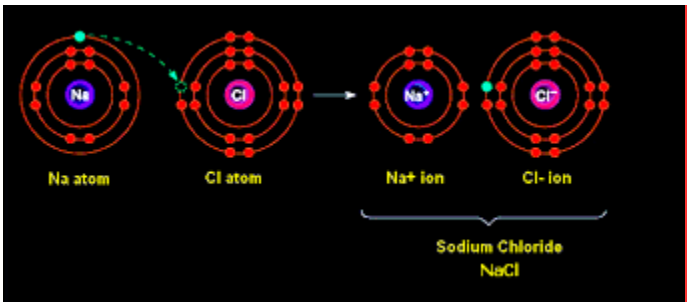

Metal
- shiny
- dense
- solid at room temp
- malleable
- conduct electricity
"sea" of electrons

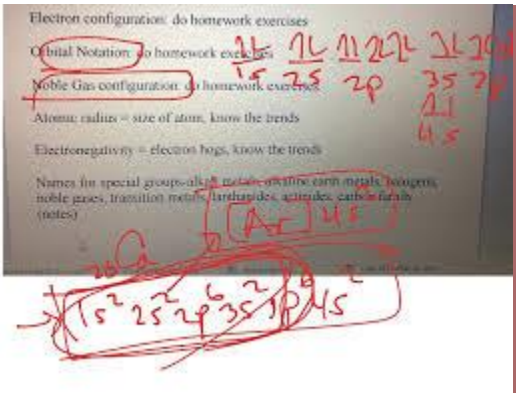

process chart of the Electrogravitational Desalination of water
EGD unit
pump
filters
flow gate
waste brine
storage unit
saline water inlet
General marine Technology Corp US Patent no 33,674,914
http://www2.murray.net.au/users/agal


EXAMPLE ONE
Percent yield = 75g CH3OH / 115.2g CH3OH
Study.com




Fe2+
S2-
©1998 Encyclopaedia Britannica, Inc.


Na
Cl
Na+
Cl-
Na atom
Cl atom
Na+ ion
Cl- ion
Sodium Chloride
NaCl


Electron configuration: do homework exercises
Orbital Notation: do homework exercises
Noble Gas configuration: do homework exercises
Atomic radius = size of atom, know the trends
Electronegativity = electron hogs, know the trends
Names for special groups-alkali, metals, alkaline earth metals, halogens, noble gases, transition metals, lanthanides, actinides, carbon family (notes)




4,100
22,24


WHAT ARE POLARITY AND A DIPOLE MOMENT?
Study.com



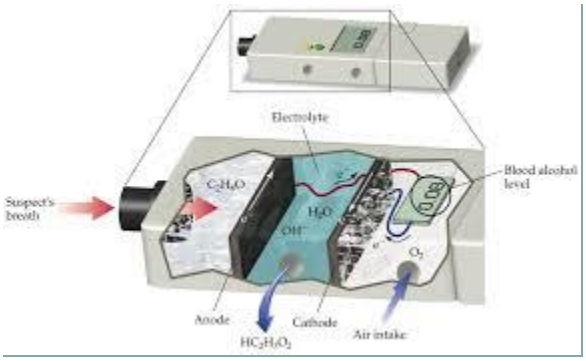
CHAPTER 9 SOLUTIONS MANUAL

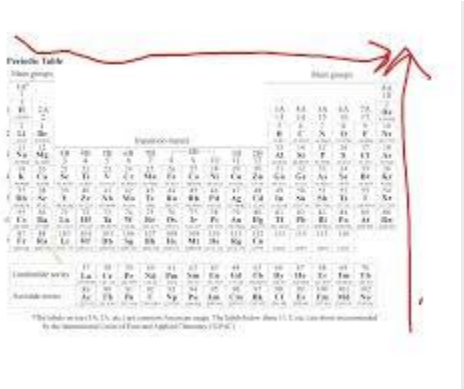
Use the figure below to answer Question 13.

13. Which statement does NOT correctly describe the model of HCl shown above?
a. A nonpolar bond exists between these atoms.
b. Chlorine has a stronger attraction for electrons than does hydrogen.
c. The electrons in the bond are shared unequally.
d. This compound dissolves in a polar substance.
e. Chlorine is the more electronegative atom.

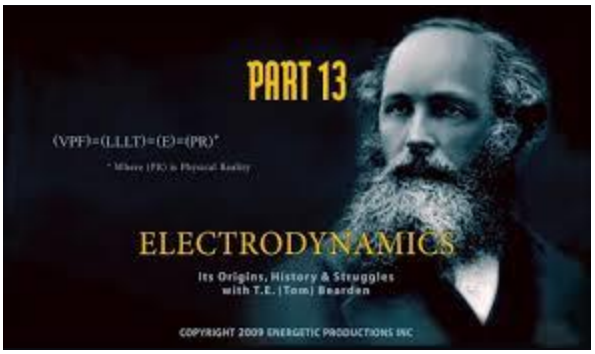
18. The combustion of ethanol C_2H_5OH produces carbon dioxide and water vapor. What equation best describes this process?
a. $C_2H_5OH + O_2(g) \rightarrow CO_2(g) + H_2O(l)$
b. $C_2H_5OH \rightarrow 2CO_2(g) + 3H_2(g)$
c. $C_2H_5OH + 3O_2(g) \rightarrow 2CO_2(g) + 3H_2O(g)$
d. $C_2H_5OH \rightarrow 3C_2(l) + 2CO_2(g) + 3H_2O(l)$
e. $C_2H_5OH \rightarrow 2CO_2(g) + 3H_2(g)$

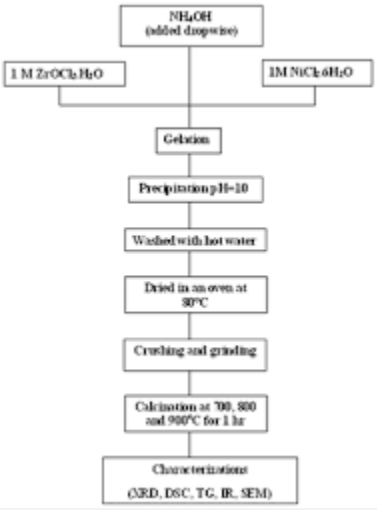
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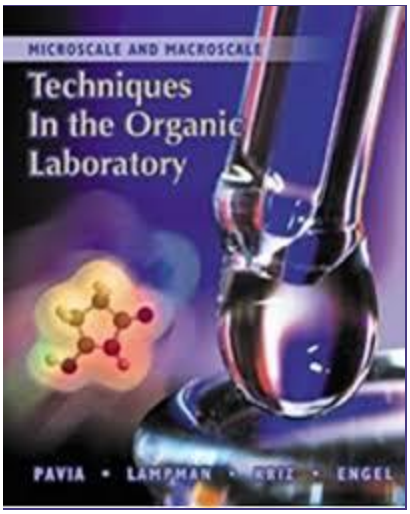
CHAPTER 9 SOLUTIONS MANUAL

Chemical Reactions

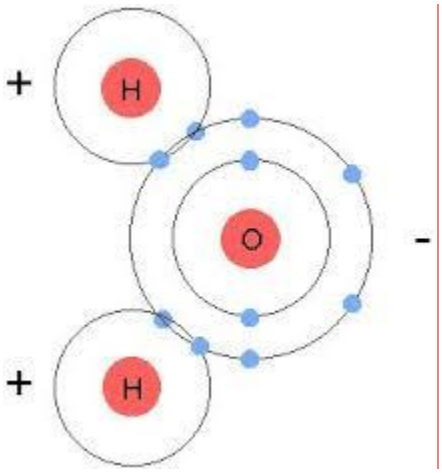
Section 9.1 Reactions and Equations

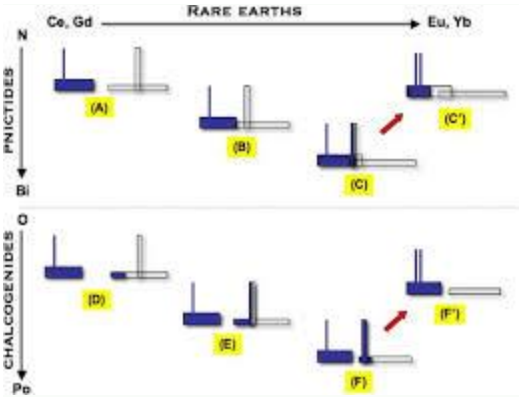
Section 9.1 Assessment

Solutions Manual Chemistry: Matter and Change • Chapter 9 99

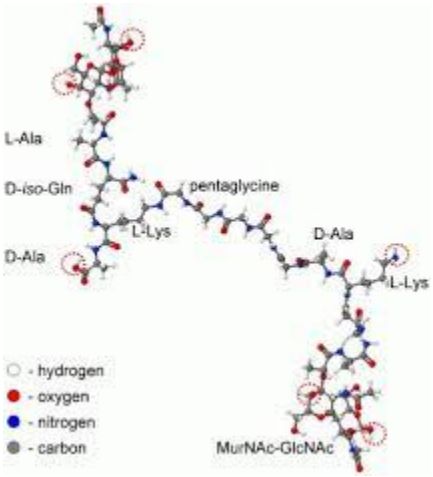


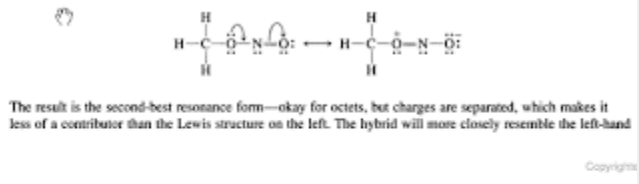












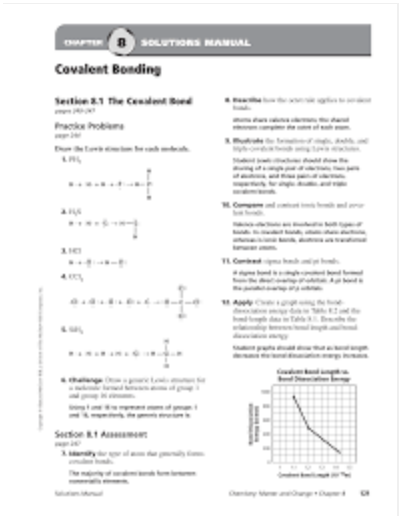
The result is the second-best resonance form—okay for octets, but charges are separated, which makes it less of a contributor than the Lewis structure on the left. The hybrid will more closely resemble the left-hand

Copyright

structure, with two nonequivalent NO bonds. The contribution of the right-hand structure, while small, will tend to make the NO bond at the end the most polar one in the molecule, with the O at the negative end.






CHAPTER 8 SOLUTIONS MANUAL

Covalent Bonding

Section 8.1 The Covalent Bond

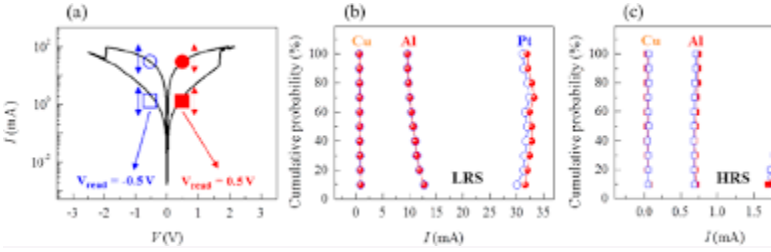
Practice Problems

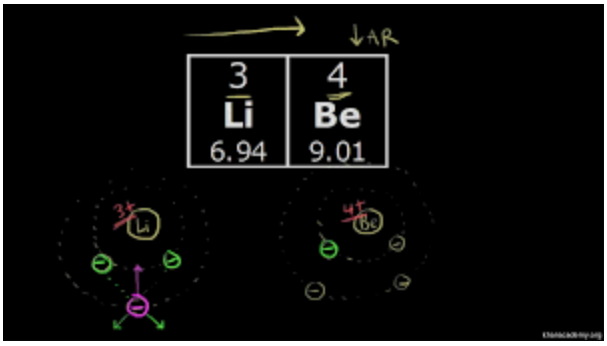
Section 8.1 Assessment

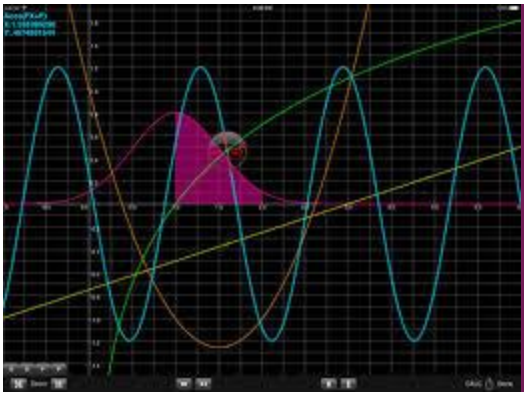


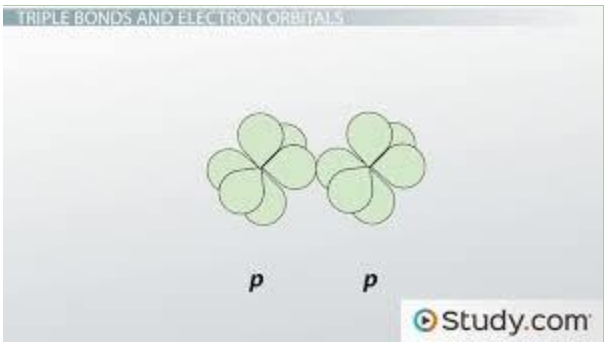










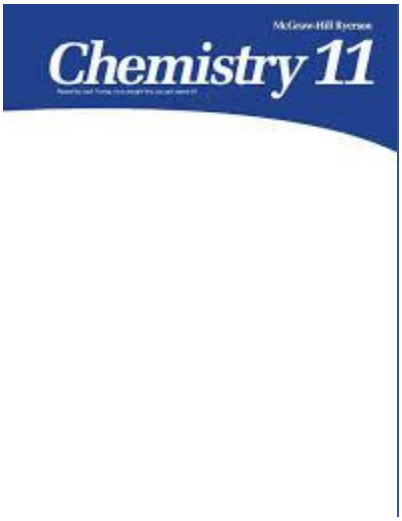


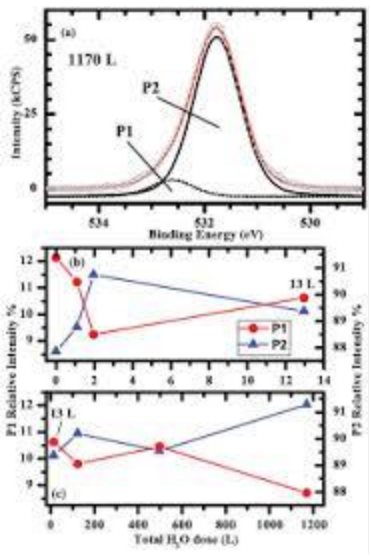
The purpose of this lab experiment was to perform a free-radical chain reaction and determine the relative reactivity of C-H bonds towards chlorination. The chain reaction was composed of an initiation, propagation, and termination steps; each step having a unique mechanism. In order to enable the typically unreactive alkane to undergo the chain reaction, chlorine radicals were produced from a liquid compound containing chlorine that could absorb energy and create a radical chlorine atom.
The alkane, 1-chlorobenzene, was used in this reaction to also study the effect of a chlorine atom on the alkane molecule. The chlorine atom had an effect on the radical alkane formation, which in turn, had an effect on the chlorination of the alkane. This relatively high electronegativity of the chlorine atom on the 1-chlorobutane causes the chlorine to pull electron density towards the chlorine atom. This has the effect of increasing the stability of the 1-chlorobutane radicals. This experiment tested the reactivity of those different radicals by measuring the percent of the different dichlorobutane molecules produced from the reaction by gas chromatography.

Main Reaction and Mechanism:

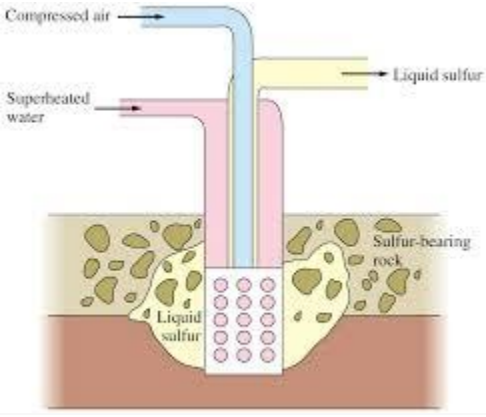
Main Reactions Chart

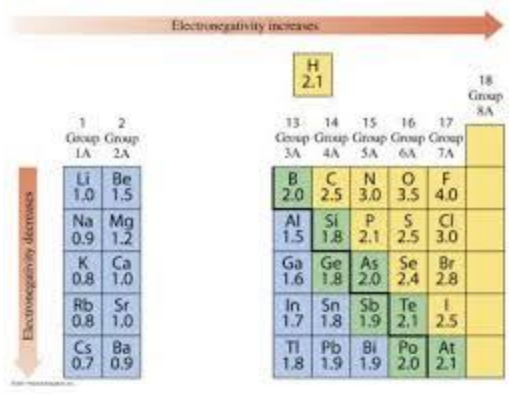








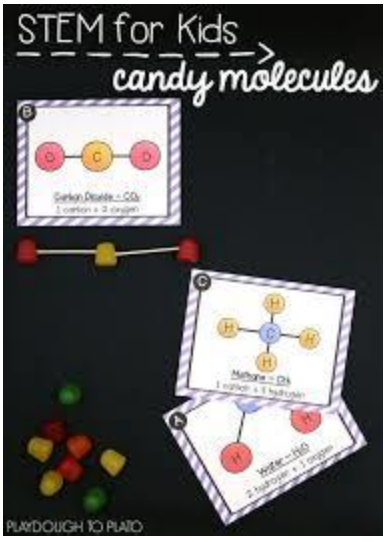




System	RS1	RS2	T1	T2	T3	T4	T5
Atoms	23259	42295	1167	1125	1065	1040	1075
Fragments	57	43	1	1	1	1	1
C	6649	12522	350	342	305	298	260
H	10434	20995	562	505	498	503	558
N	2730	3339	117	129	123	104	75
O	3332	5225	136	144	136	133	176
S	30	149	0	3	2	0	6
Ca	84	65	2	2	1	2	0

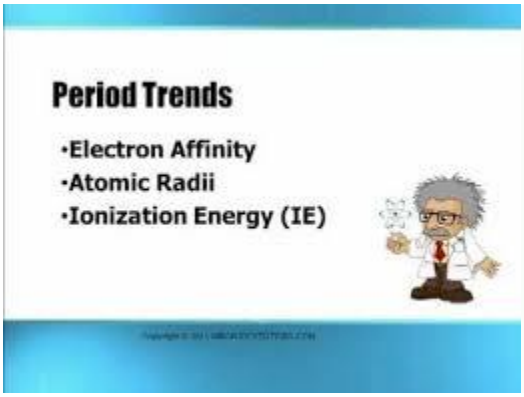
Reference sets RS1 and RS2 were used for model calibration, and internal and external validation. Five additional test molecules T1–T5 were used for external validation.
doi:10.1371/journal.pcbi.1002565.t001



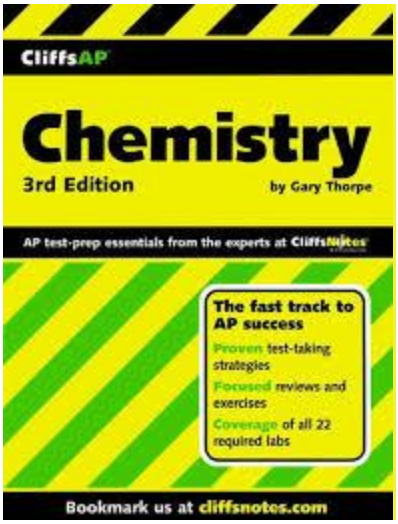




paga den
6
pago
SIN INTERES
Crédito inmediato, aprobación en 15 minutos.







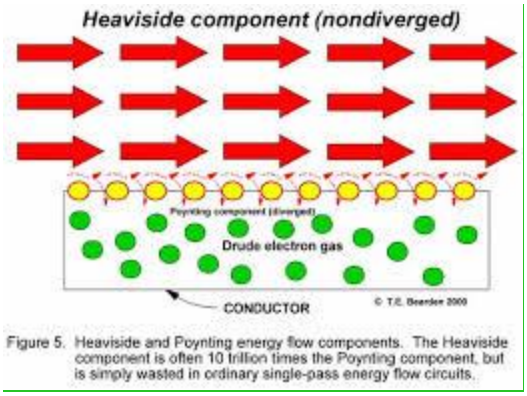
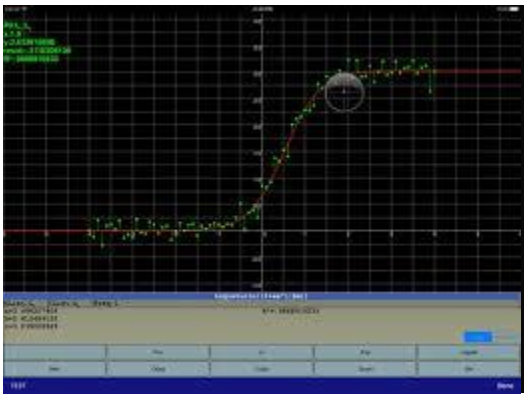
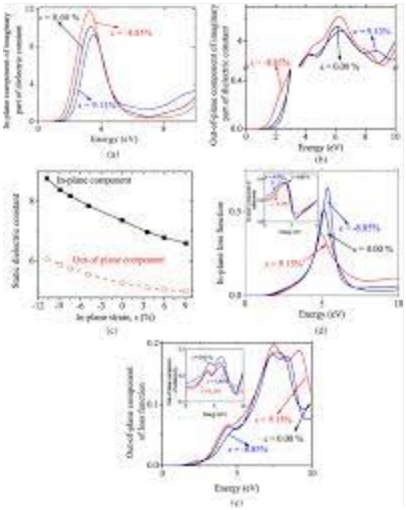


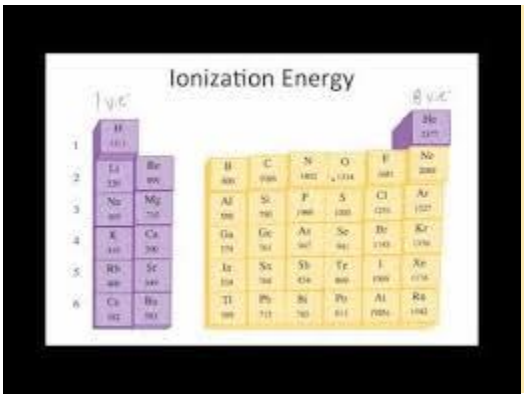
Figure 5. Heaviside and Poynting energy flow components. The Heaviside component is often 10 trillion times the Poynting component, but is simply wasted in ordinary single-pass energy flow circuits.

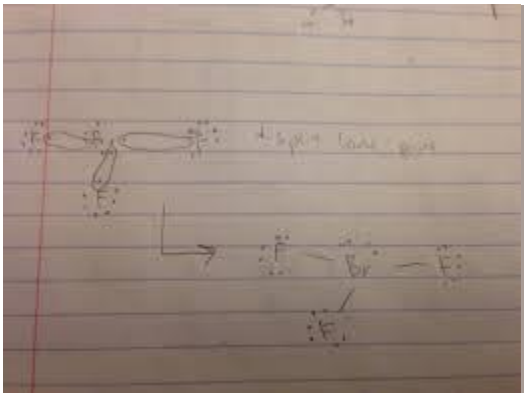








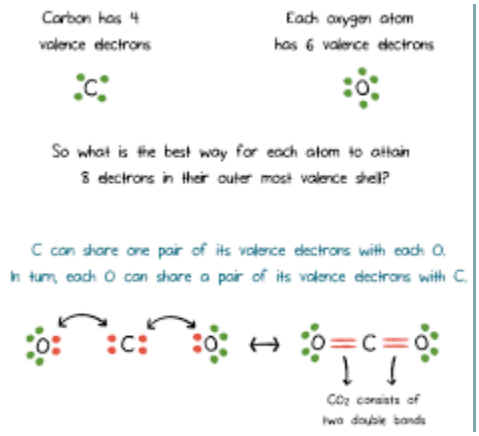






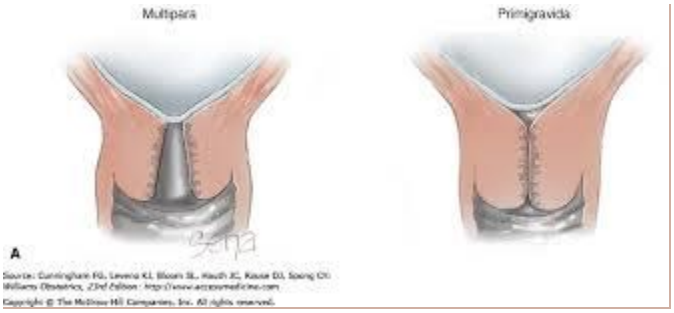


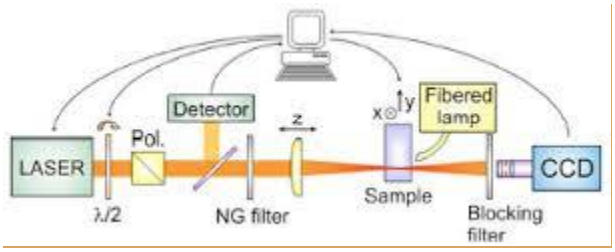

GRAMS AND MOLES OF A CHEMICAL SUBSTANCE
CHEMICAL
LABORATORY
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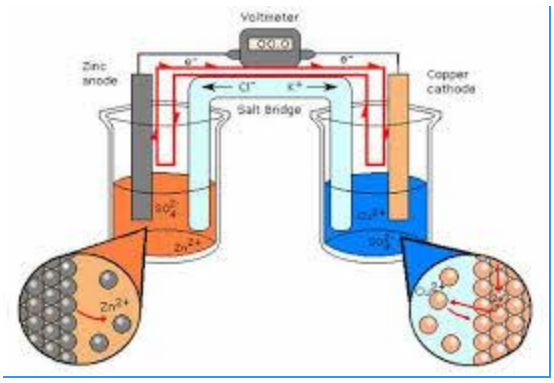

Carbon has 4 valence electrons
Each oxygen atom has 6 valence electrons
So what is the best way for each atom to attain 8 electrons in their outer most valence shell?
C can share one pair of its valence electrons with each O.
In turn, each O can share a pair of its valence electrons with C.
CO2 consists of two double bonds

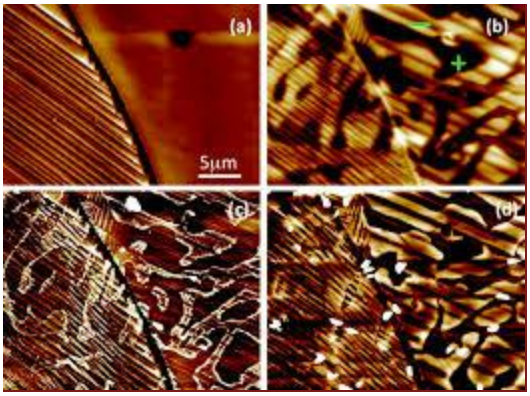

USING THE CHICAGO MANUAL OF STYLE (CMOS) FORMAT
AUTHOR-DATE STYLE (16th ed.)



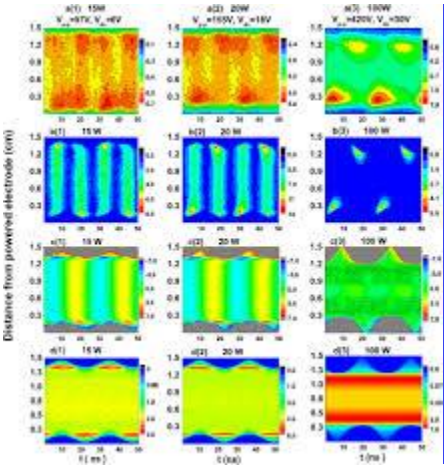

Multipara
Primigravida
A

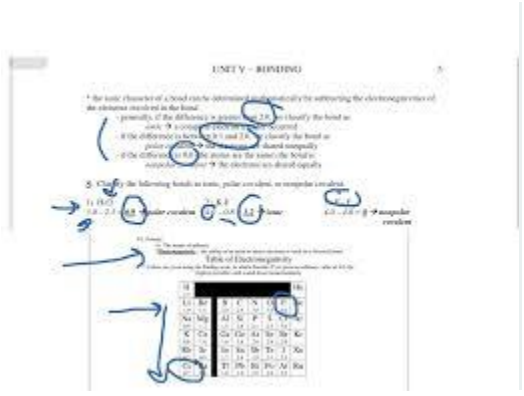

LASER
λ/2
Pol.
Detector
NG filter
z
x
y
Sample
Fibered lamp
CCD
Blocking filter


Voltmeter
Zinc anode
Copper cathode
Salt Bridge

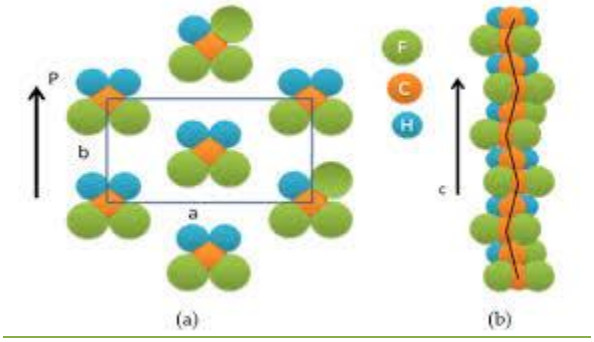

(a)
(b)
5μm
(c)
(d)

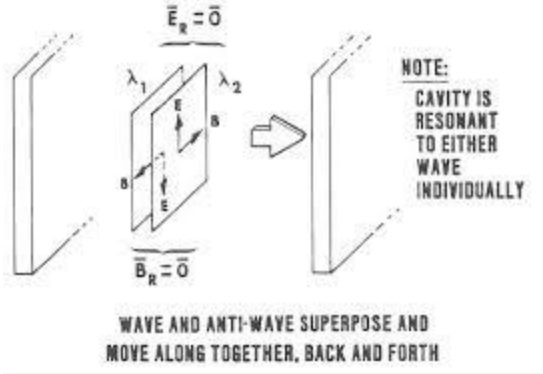


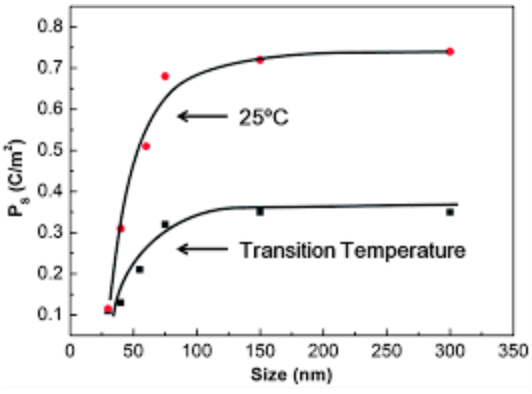

Distance from powered electrode (cm)



Mg^^

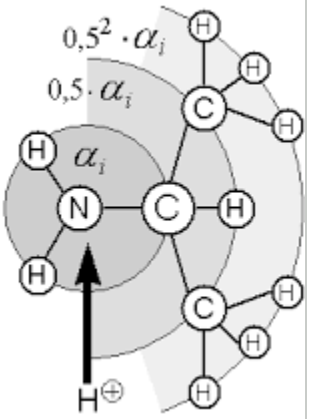

P
b
a
F
C
H
c
(a)
(b)

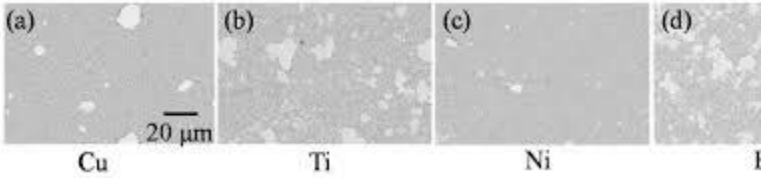

$\bar{E}_R = \bar{0}$
λ_1
λ_2
E
B
B
E
$\bar{B}_R = \bar{0}$
NOTE:
CAVITY IS RESONANT TO EITHER WAVE INDIVIDUALLY
WAVE AND ANTI-WAVE SUPERPOSE AND MOVE ALONG TOGETHER, BACK AND FORTH


P_s (C/m^2)
25°C
Transition Temperature
Size (nm)

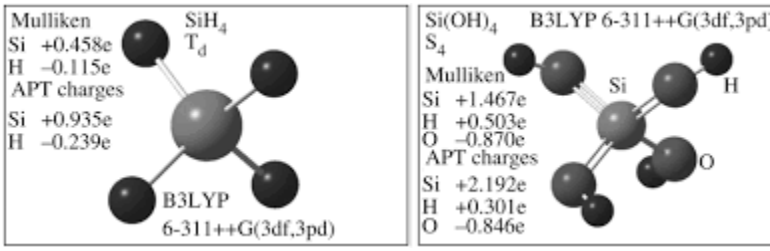


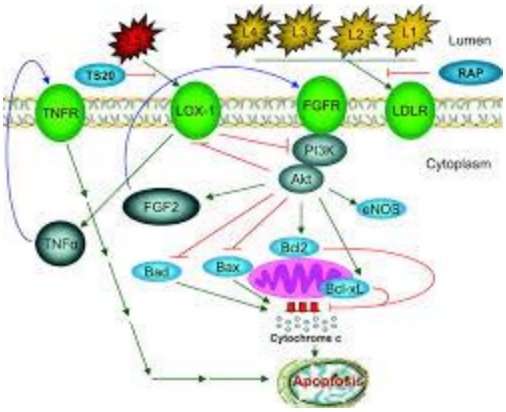


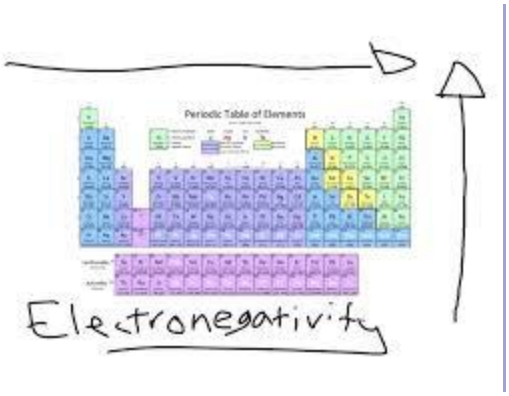

$0{,}5^2 \cdot \alpha_i$
$0{,}5 \cdot \alpha_i$
α_i
H
C
N
$H^{\oplus}$

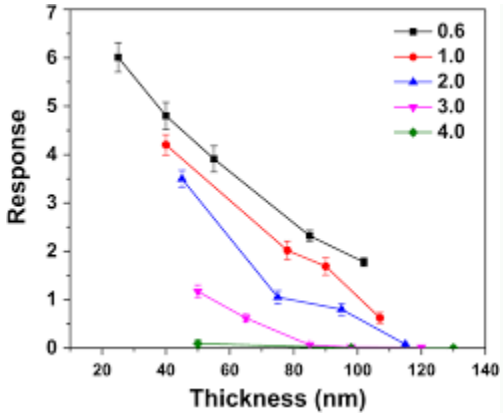

(a)
(b)
(c)
(d)
20 μm
Cu
Ti
Ni




Mulliken
Si +0.458e
H –0.115e
APT charges
Si +0.935e
H –0.239e
SiH_4
T_d
B3LYP
6-311++G(3df,3pd)
$Si(OH)_4$
S_4
B3LYP 6-311++G(3df,3pd)
Mulliken
Si +1.467e
H +0.503e
O –0.870e
APT charges
Si +2.192e
H +0.301e
O –0.846e
Si
H
O

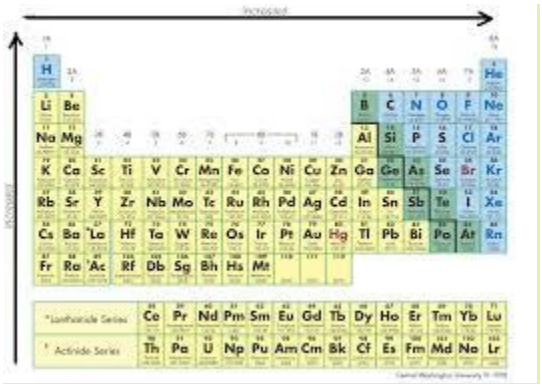

L4
L3
L2
L1
Lumen
TS20
RAP
TNFR
LOX-1
FGFR
LDLR
PI3K
Cytoplasm
Akt
FGF2
eNOS
TNFα
Bad
Bax
Bcl-2
Bcl-xL
Cytochrome c
Apoptotic

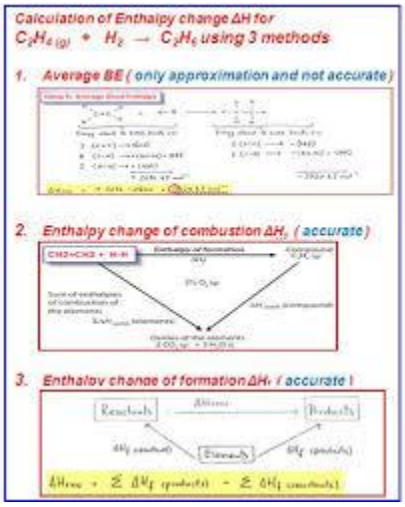

Periodic Table of Elements
Electronegativity

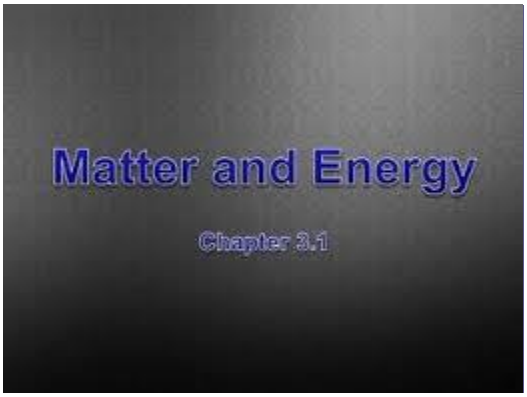

Response
Thickness (nm)
0.6
1.0
2.0
3.0
4.0
0
1
2
3
4
5
6
7
20
40
60
80
100
120
140


BONDING IN COORDINATED COMPOUNDS
TM

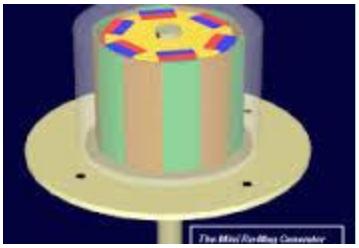

PART 36
A Dialogue with T.E. (Tom) Bearden
ENGINEERING PHYSICAL REALITY
COPYRIGHT 2014 ENERGETIC PRODUCTIONS INC

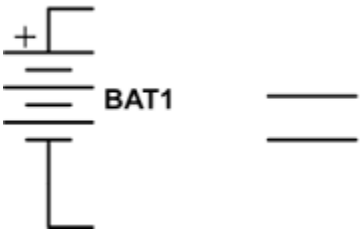


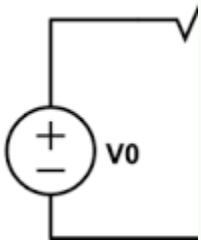

Calculation of Enthalpy change ΔH for
$C_2H_{4\,(g)} + H_2 \rightarrow C_2H_6$ using 3 methods
1. Average BE (only approximation and not accurate)
2. Enthalpy change of combustion ΔH_c (accurate)
3. Enthalpy change of formation ΔH_f (accurate)
Reactants
Products
Elements

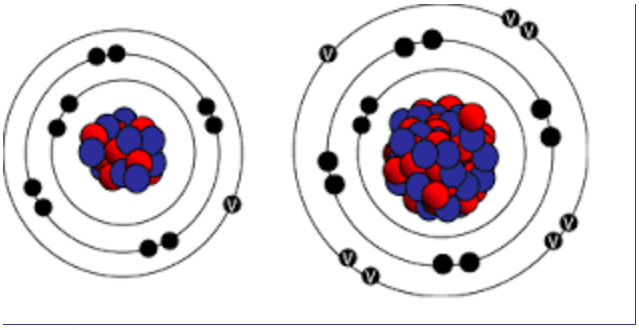

Matter and Energy
Chapter 3.1

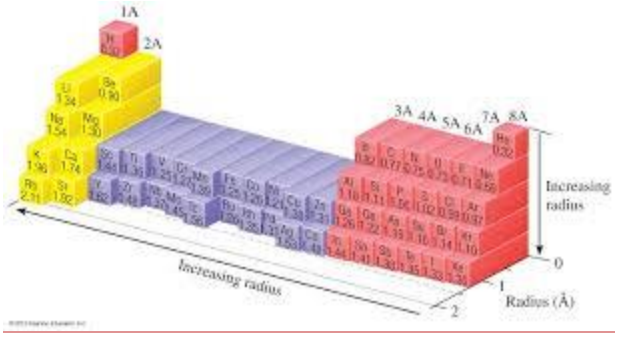




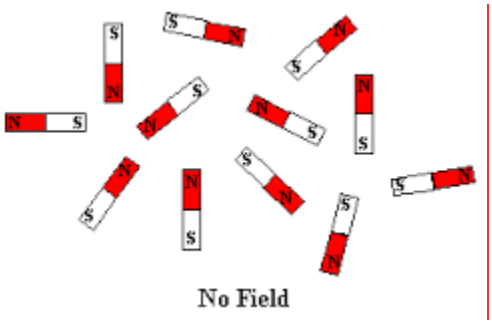

BAT1

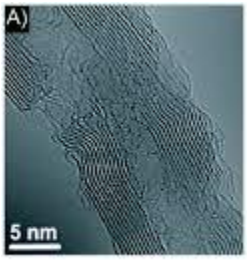

V0

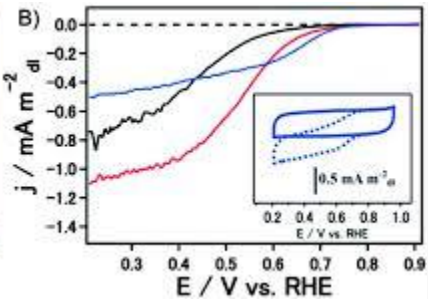



1A
2A
3A 4A 5A 6A 7A 8A
Increasing radius
Increasing radius
0
1
2
Radius (Å)

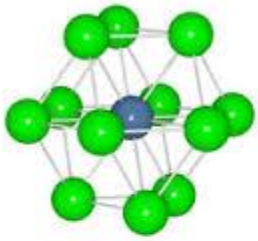


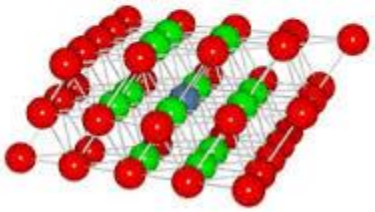

No Field


5 nm

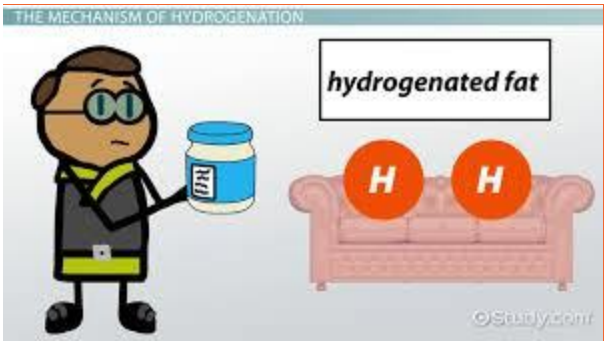

B)
j / mA m$^{-2}_{dl}$
0.5 mA m$^{-2}_{dl}$
E / V vs. RHE
E / V vs. RHE

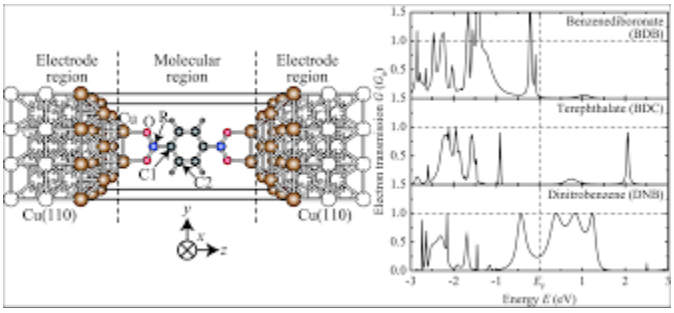


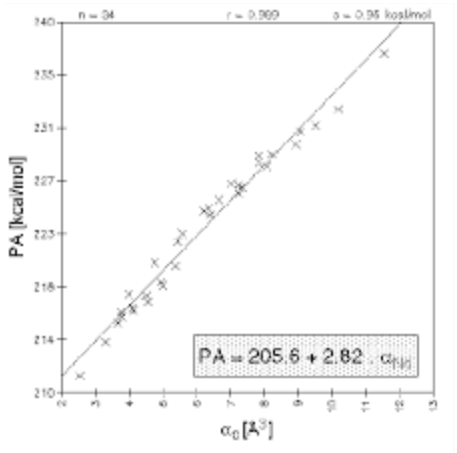




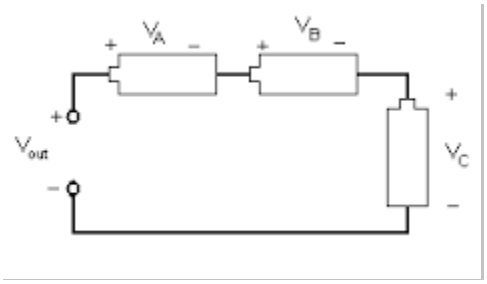


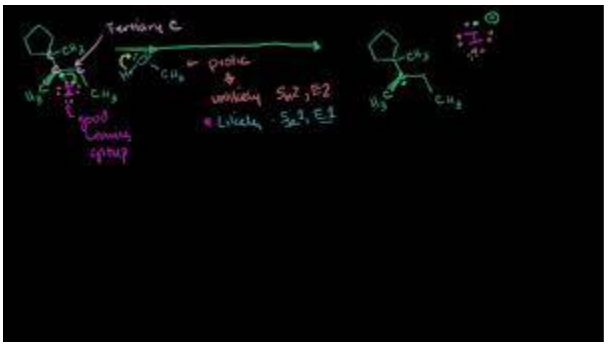

THE MECHANISM OF HYDROGENATION
hydrogenated fat
H
H
©Study.com


Electrode region
Molecular region
Electrode region
Cu(110)
Cu(110)
Benzenediboronate (BDB)
Terephthalate (BDC)
Dinitrobenzene (DNB)
Energy E (eV)

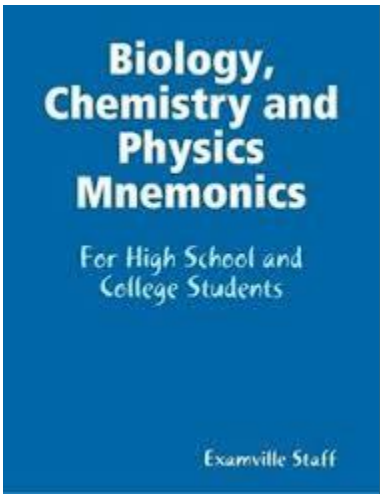




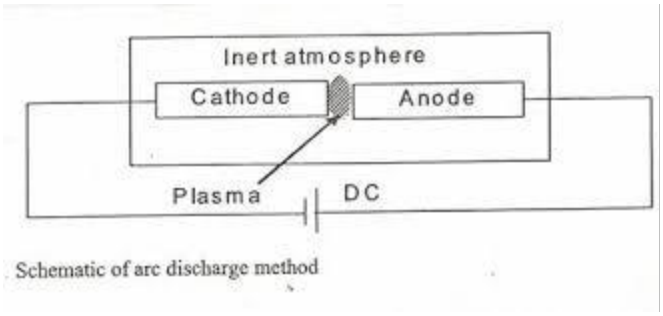




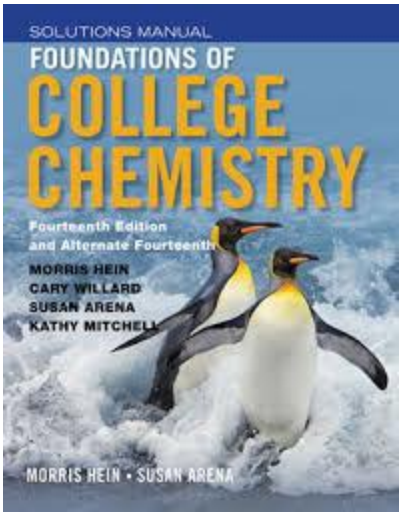
39 Y yttrium : [Kr] $4d^1 5s^2$									
$1s^2$	$2s^2$	$2p^6$	$3s^2$	$3p^6$	$3d^{10}$	$4s^2$	$4p^6$	$4d^1$	$5s^2$
2	8		18			9			2
40 Zr zirconium : [Kr] $4d^2 5s^2$									
$1s^2$	$2s^2$	$2p^6$	$3s^2$	$3p^6$	$3d^{10}$	$4s^2$	$4p^6$	$4d^2$	$5s^2$
2	8		18			10			2
41 Nb niobium : [Kr] $4d^4 5s^1$									
$1s^2$	$2s^2$	$2p^6$	$3s^2$	$3p^6$	$3d^{10}$	$4s^2$	$4p^6$	$4d^4$	$5s^1$
2	8		18			12			1
42 Mo molybdenum : [Kr] $4d^5 5s^1$									
$1s^2$	$2s^2$	$2p^6$	$3s^2$	$3p^6$	$3d^{10}$	$4s^2$	$4p^6$	$4d^5$	$5s^1$
2	8		18			13			1
43 Tc technetium : [Kr] $4d^5 5s^2$									
$1s^2$	$2s^2$	$2p^6$	$3s^2$	$3p^6$	$3d^{10}$	$4s^2$	$4p^6$	$4d^5$	$5s^2$

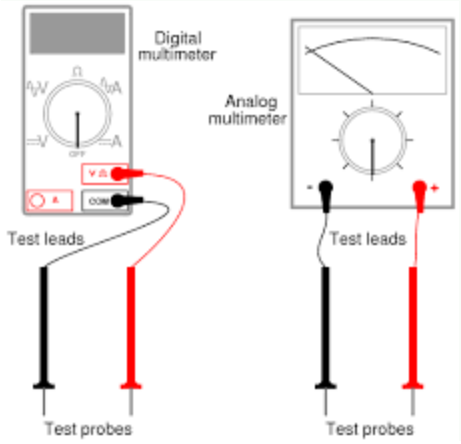






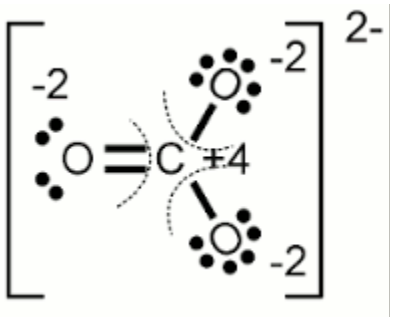
Schematic of arc discharge method


SOLUTIONS MANUAL
FOUNDATIONS OF
COLLEGE
CHEMISTRY
Fourteenth Edition
and Alternate Fourteenth
MORRIS HEIN
CARY WILLARD
SUSAN ARENA
KATHY MITCHELL
MORRIS HEIN • SUSAN ARENA


Digital multimeter
Analog multimeter
Test leads
Test leads
Test probes
Test probes

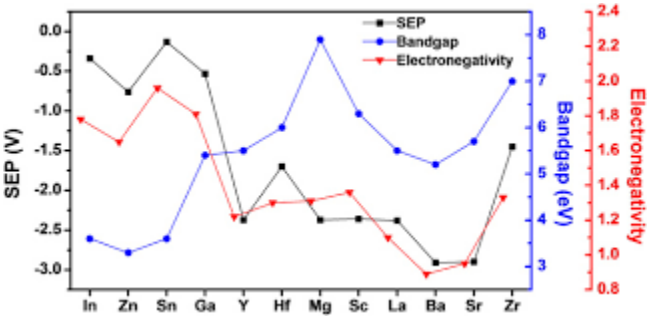

APRIL 2014
1. WELTWEITE PRÄSENTATION (LAUFENDES BEISPIELE FOLGEN DEMNÄCHST)
EINES NUKLEAREN PLASMA REAKTORS DER KESHE STIFTUNG


CHEMISTRY MONOPOLY
GO

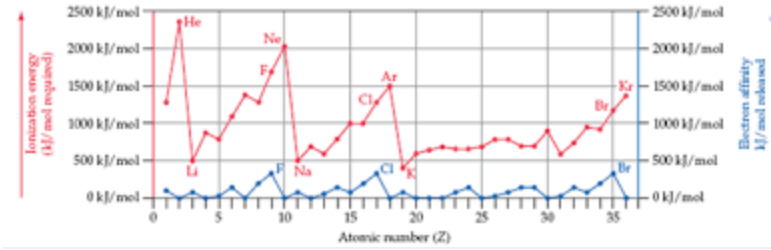

2-
-2
-2
O
C
+4
-2

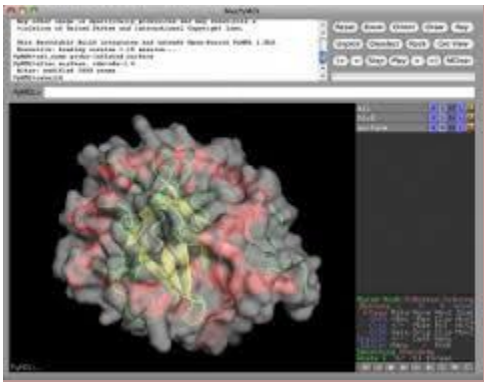


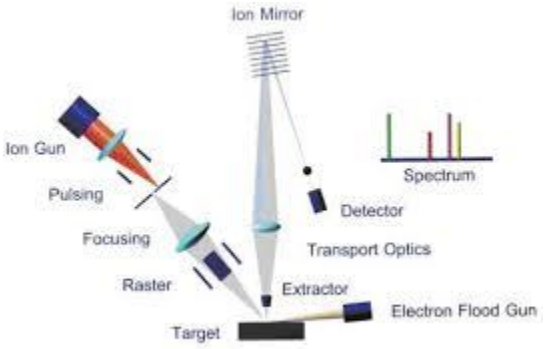


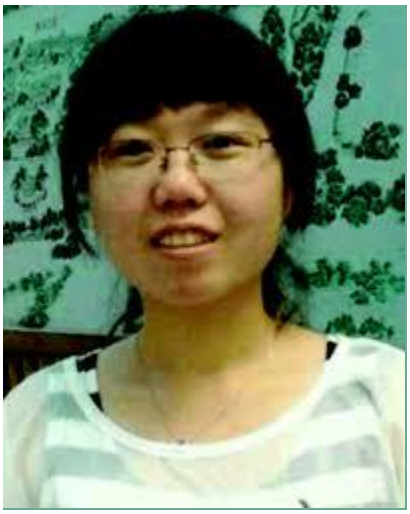

SEP
Bandgap
Electronegativity
SEP (V)
Bandgap (eV)
Electronegativity
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
8
7
6
5
4
3
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
In
Zn
Sn
Ga
Y
Hf
Mg
Sc
La
Ba
Sr
Zr

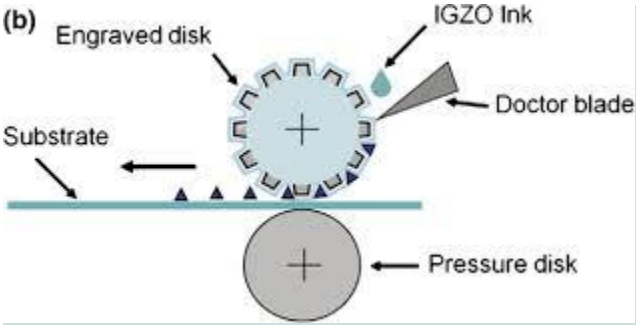


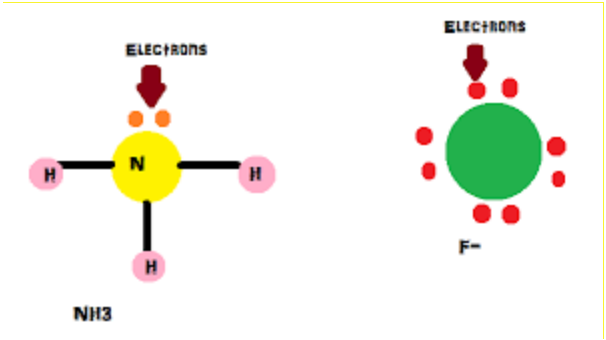

2500 kJ/mol
2000 kJ/mol
1500 kJ/mol
1000 kJ/mol
500 kJ/mol
0 kJ/mol
Ionization energy (kJ/mol required)
Electron affinity kJ/mol released
He
Ne
F
Ar
Cl
Kr
Br
Li
F
Na
Cl
K
Br
0
5
10
15
20
25
30
35
Atomic number (Z)



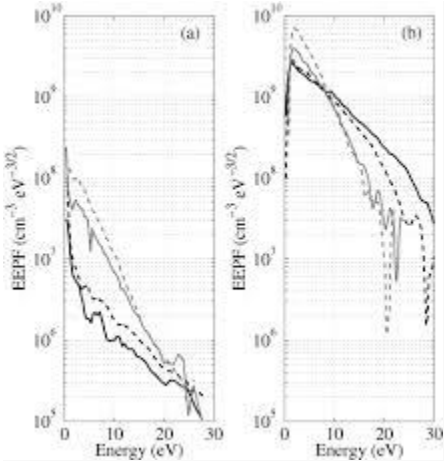

Ion Mirror
Ion Gun
Pulsing
Focusing
Raster
Target
Extractor
Transport Optics
Detector
Spectrum
Electron Flood Gun

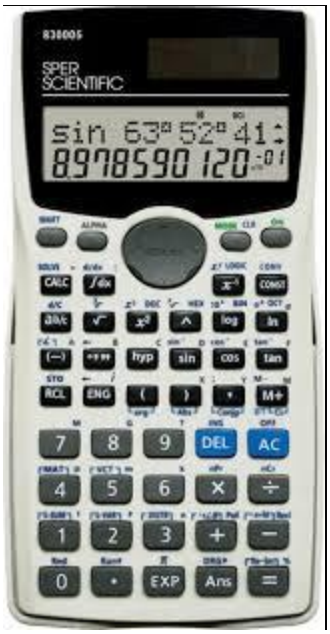



(b)
Engraved disk
IGZO Ink
Doctor blade
Substrate
Pressure disk

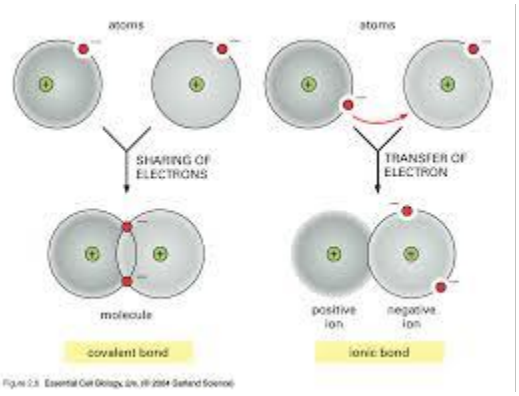

ELECTRONS
H
N
H
H
NH3
ELECTRONS
F-

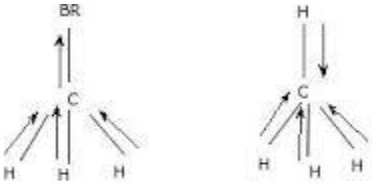

Reading
BAV
Algebra
History
English
Science
Social Studies
Vocabulary
Mathematics
Building Academic Vocabulary


(a)
(b)
EEPF (cm⁻³ eV⁻³/²)
Energy (eV)
0
10
20
30







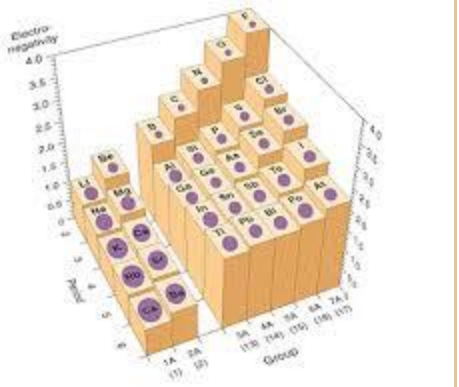


Electronegativity If electronegativity is less than 0.4 it is non-polar

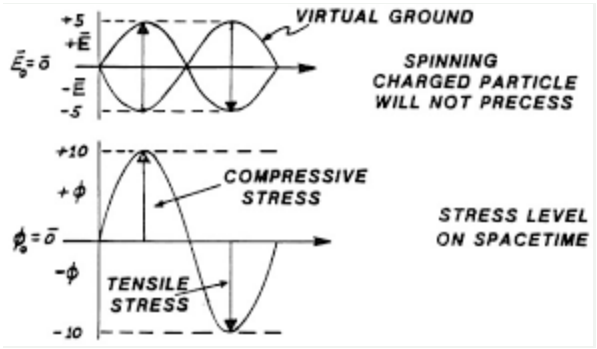
non-polar?

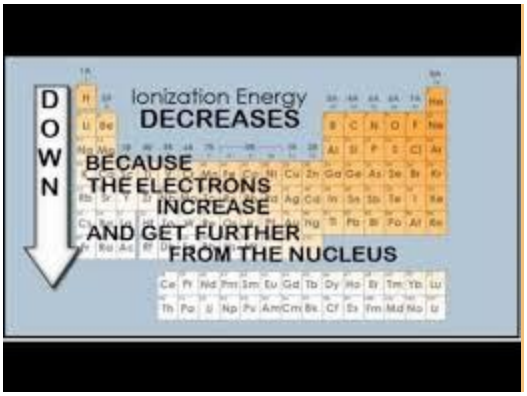


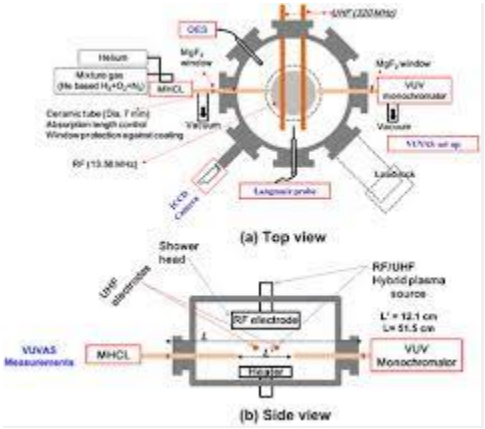


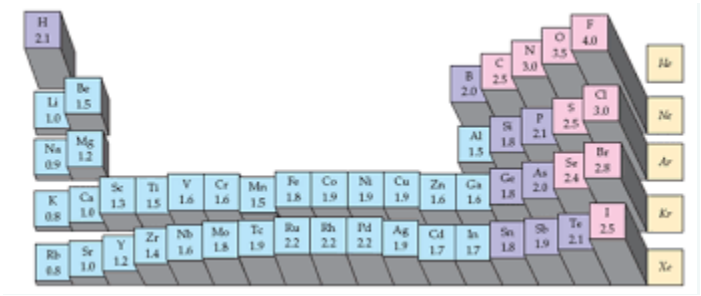


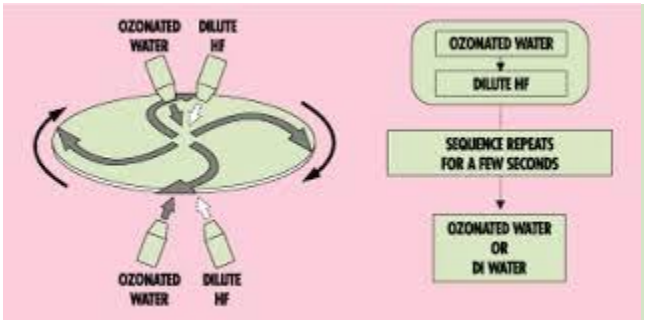
$_{30}Zn\text{-}1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 4d^{10}$



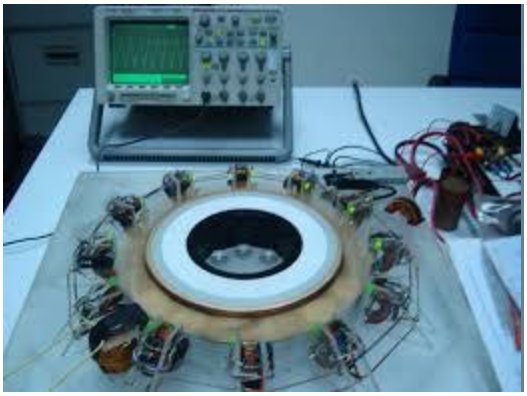




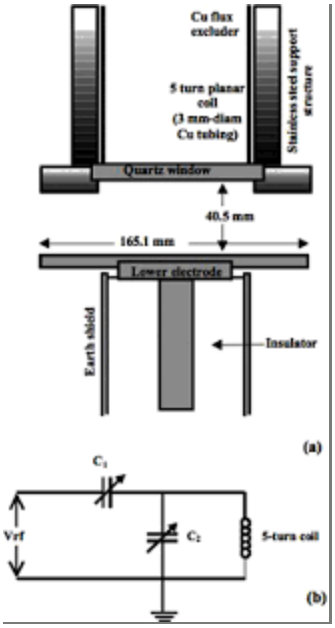


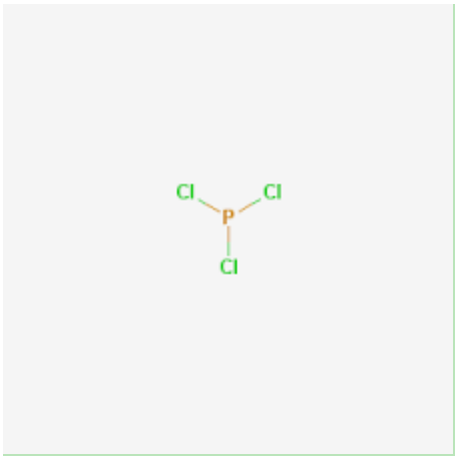


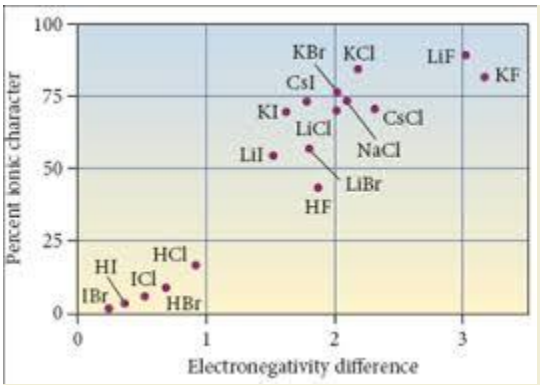


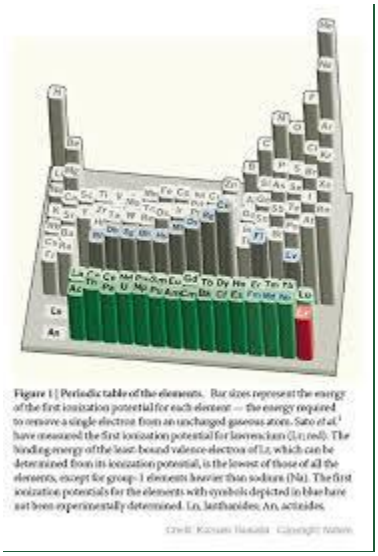


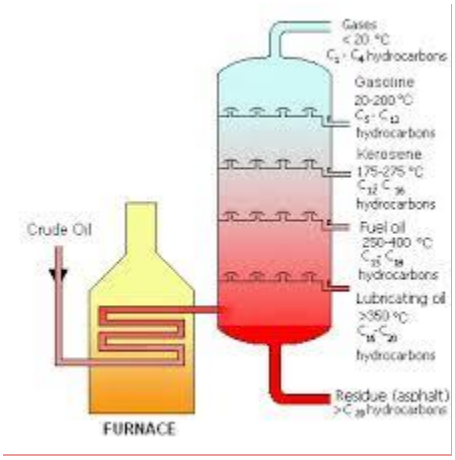
1A (1)							8A (18)
H −72.8	2A (2)	3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	He (+21)
Li −59.6	Be (+241)	B −26.7	C −122	N 0	O −141	F −328	Ne (+29)
Na −52.9	Mg (+230)	Al −42.5	Si −134	P −72.0	S −200	Cl −349	Ar (+34)
K −48.4	Ca (+156)	Ga −28.9	Ge −119	As −76.2	Se −196	Br −325	Kr (+39)
Rb −46.9	Sr (+157)	In −28.9	Sn −107	Sb −103	Te −190	I −295	Xe (+40)
Cs −45.5	Ba (+52)	Tl −19.3	Pb −35.1	Bi −91.3	Po −183	At −270	Rn (+41)








Figure 1 | Periodic table of the elements. Bar sizes represent the energy of the first ionization potential for each element — the energy required to remove a single electron from an uncharged gaseous atom. Sato *et al.*[1] have measured the first ionization potential for lawrencium (Lr; red). The binding energy of the least-bound valence electron of Lr, which can be determined from its ionization potential, is the lowest of those of all the elements, except for group-1 elements heavier than sodium (Na). The first ionization potentials for the elements with symbols depicted in blue have not been experimentally determined. Ln, lanthanides; An, actinides.



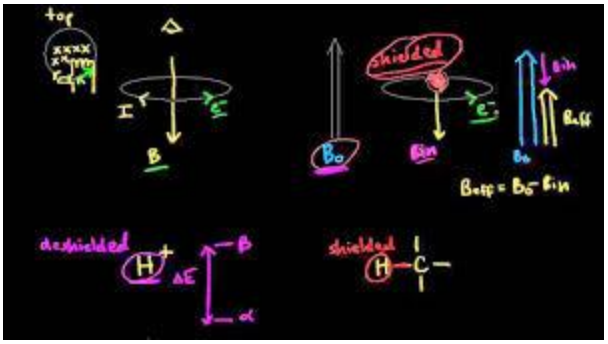


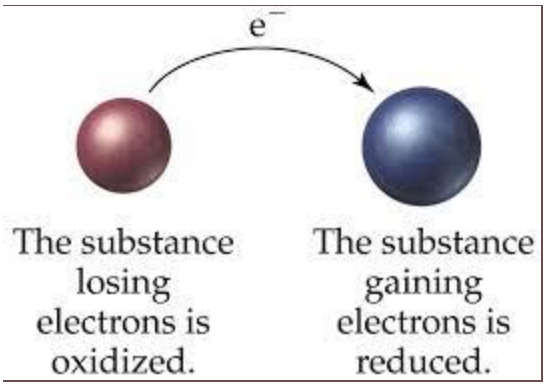


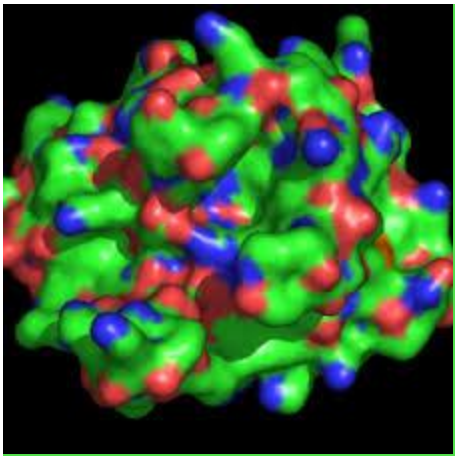
SCIENCE 9

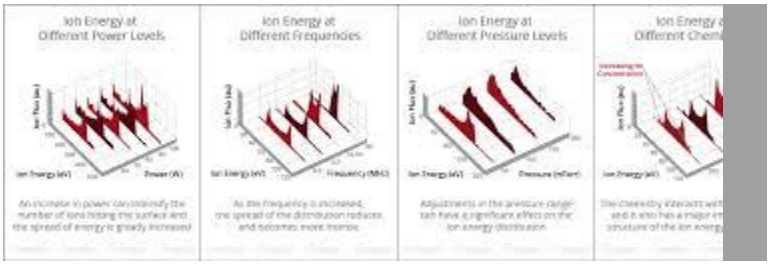
Carlo Joseph M. Moreno
August 2014

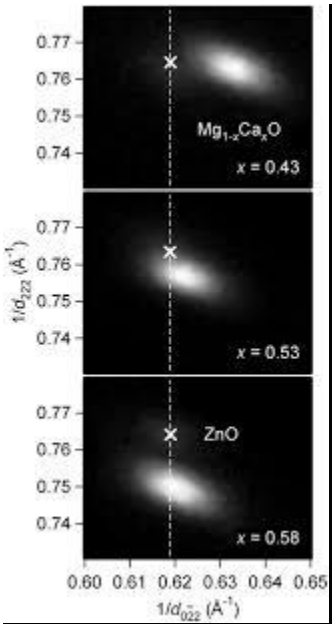
MODULE 1

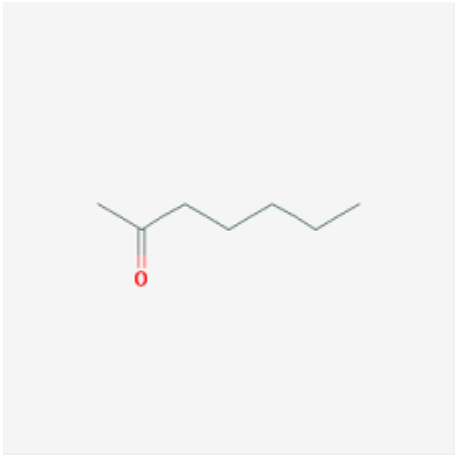


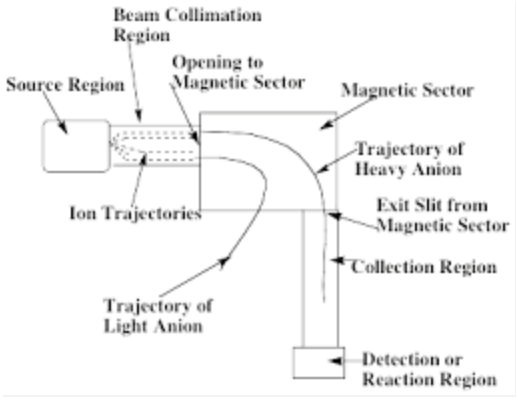

e⁻
The substance losing electrons is oxidized.
The substance gaining electrons is reduced.

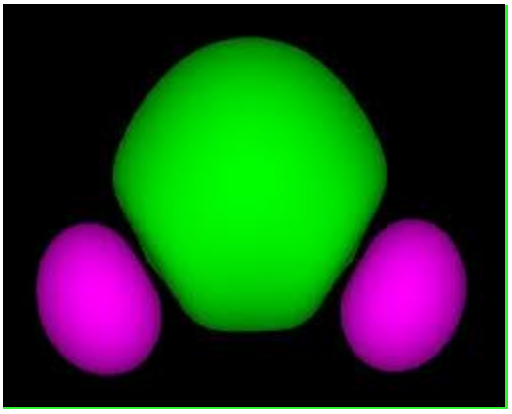


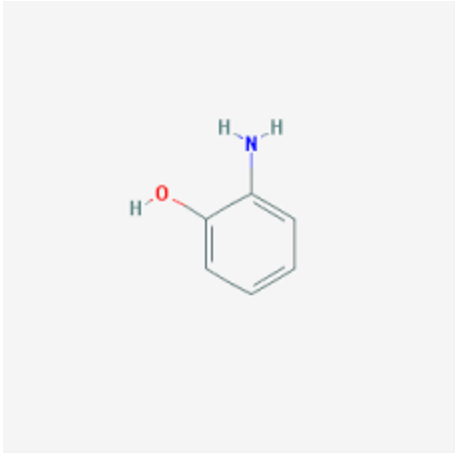

Ion Energy at Different Power Levels
Ion Energy at Different Frequencies
Ion Energy at Different Pressure Levels


0.77
0.76
0.75
0.74
Mg1-xCaxO
x = 0.43
x = 0.53
ZnO
x = 0.58
1/d222 (Å-1)
0.60 0.61 0.62 0.63 0.64 0.65
1/d022 (Å-1)

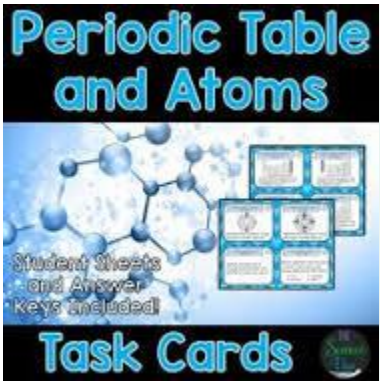

O

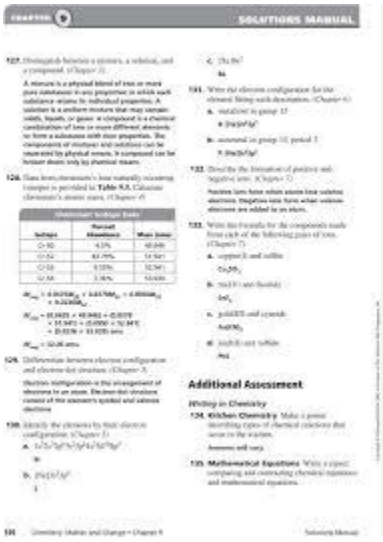

Beam Collimation Region
Source Region
Opening to Magnetic Sector
Magnetic Sector
Trajectory of Heavy Anion
Ion Trajectories
Exit Slit from Magnetic Sector
Collection Region
Trajectory of Light Anion
Detection or Reaction Region

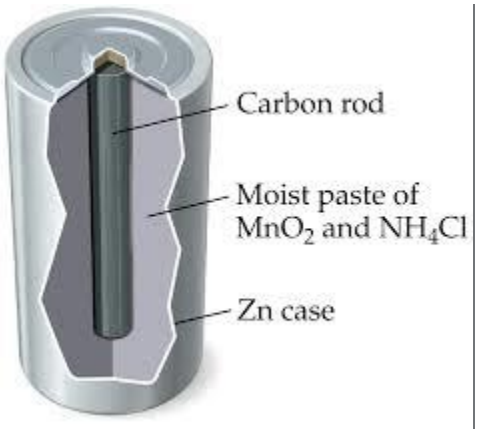


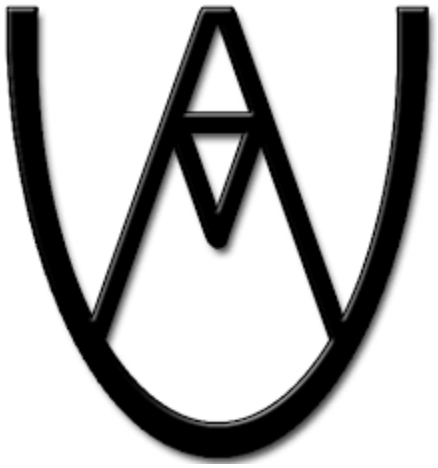

H
N
H
O
H




Periodic Table and Atoms
Student Sheets and Answer Keys included
Task Cards

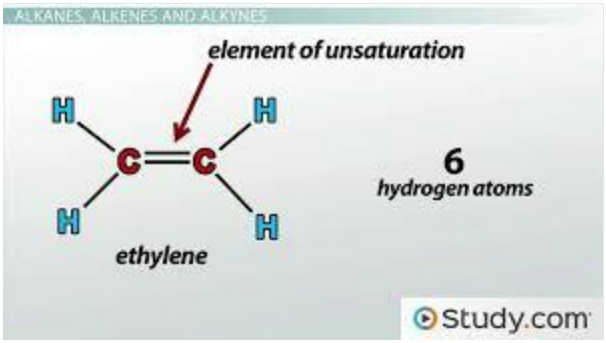

SOLUTIONS MANUAL
Additional Assessment

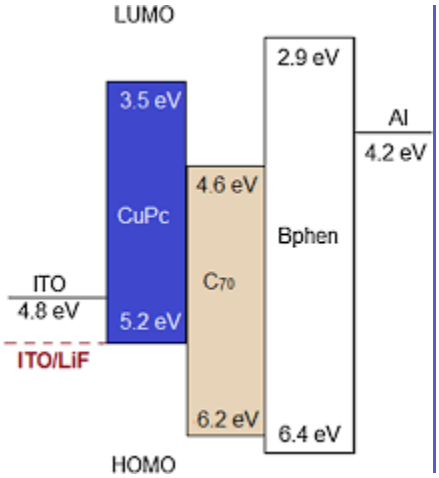

Carbon rod
Moist paste of MnO_2 and NH_4Cl
Zn case

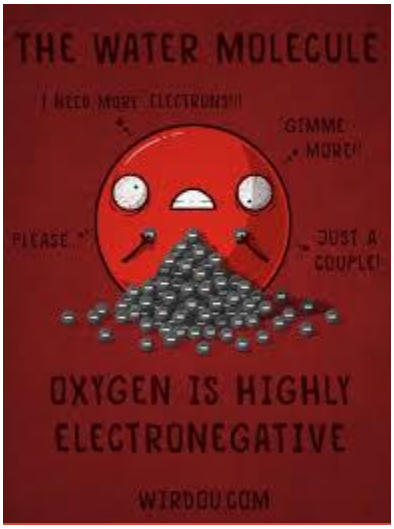


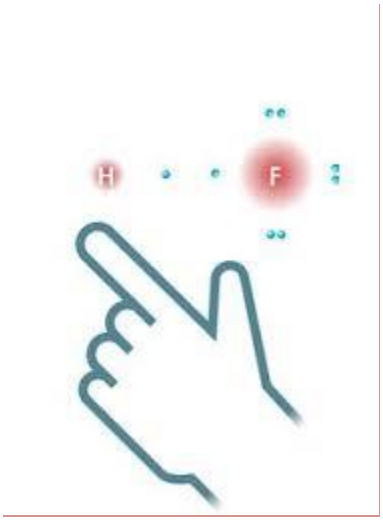

STRUCTURE AND BONDING 66
Electronegativity

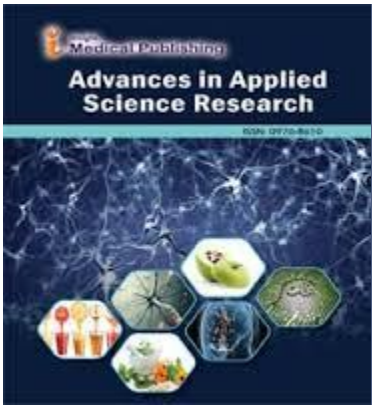


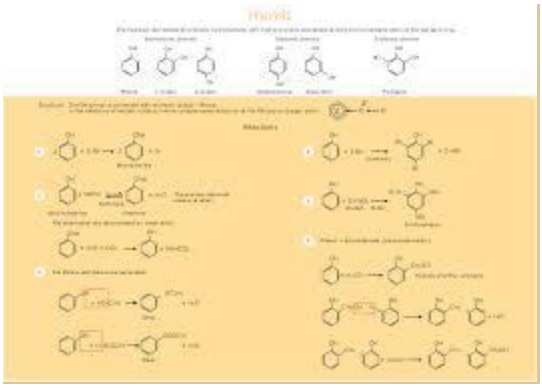

ALKANES, ALKENES AND ALKYNES
element of unsaturation
H
H
C
C
H
H
6
hydrogen atoms
ethylene
Study.com

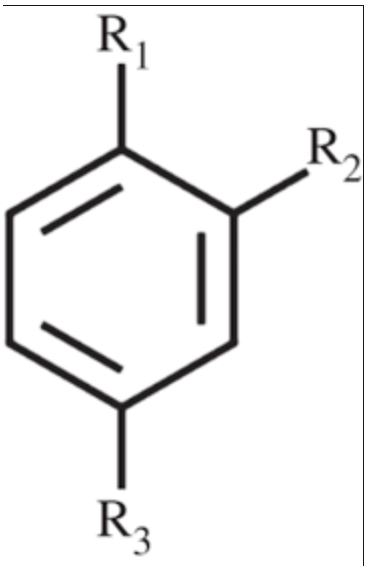

LUMO
2.9 eV
3.5 eV
Al
4.2 eV
4.6 eV
CuPc
Bphen
ITO
4.8 eV
C70
5.2 eV
ITO/LiF
6.2 eV
6.4 eV
HOMO


THE WATER MOLECULE
I NEED MORE ELECTRONS!!!
GIMME MORE!
PLEASE
JUST A COUPLE!
OXYGEN IS HIGHLY ELECTRONEGATIVE
WIRDOU.COM


H
F


Medical Publishing
Advances in Applied Science Research




R1
R2
R3



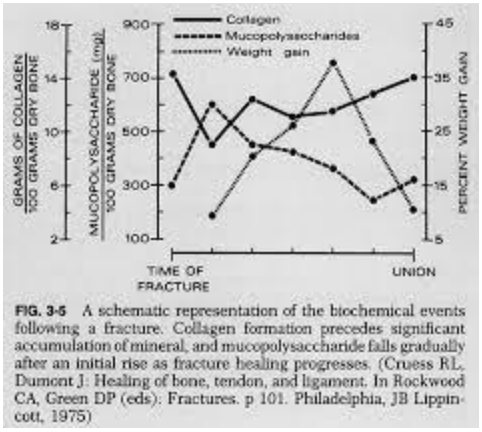
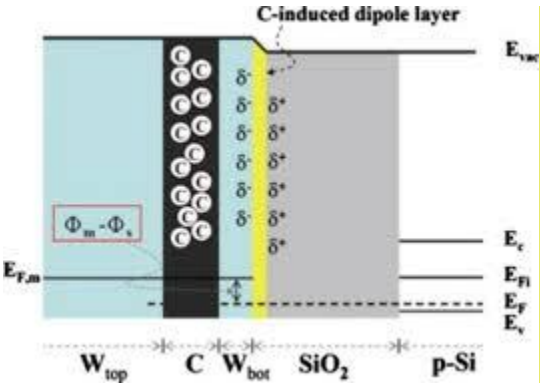
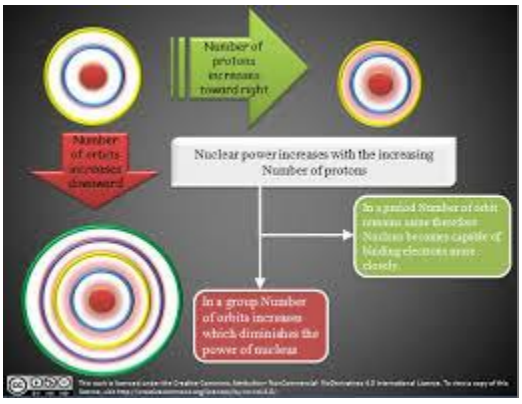
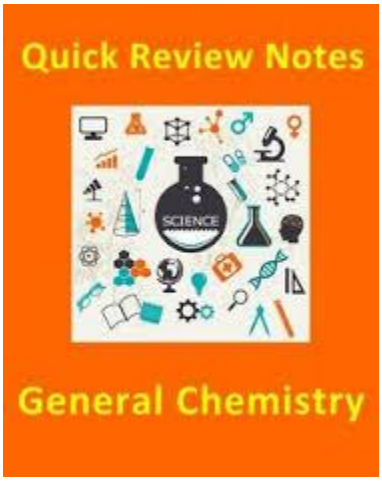
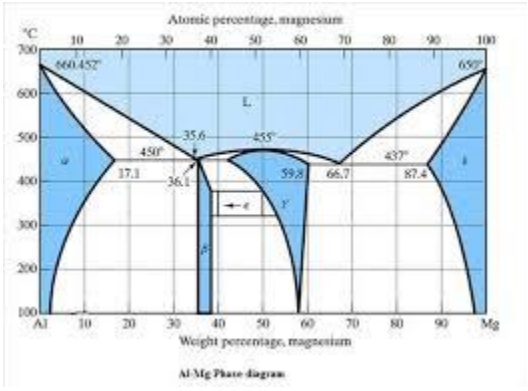


FIG. 3-5 A schematic representation of the biochemical events following a fracture. Collagen formation precedes significant accumulation of mineral, and mucopolysaccharide falls gradually after an initial rise as fracture healing progresses. (Cruess RL, Dumont J: Healing of bone, tendon, and ligament. In Rockwood CA, Green DP (eds): Fractures. p 101. Philadelphia, JB Lippincott, 1975)

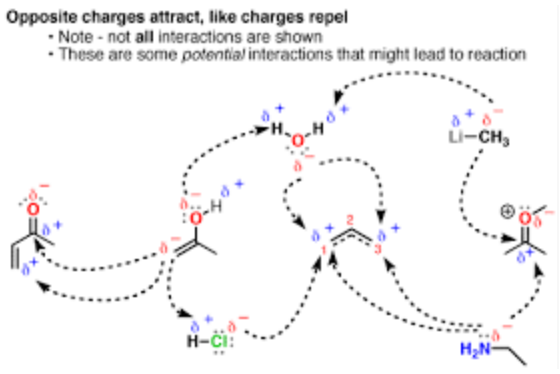








Al-Mg Phase diagram



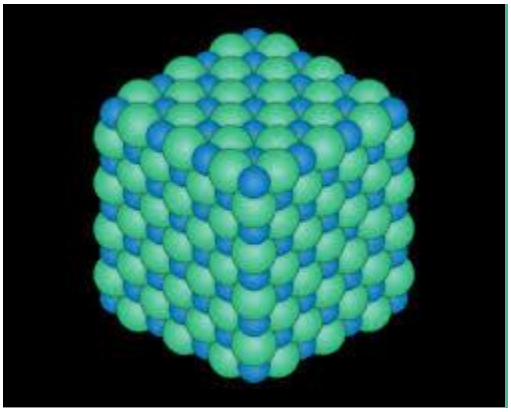


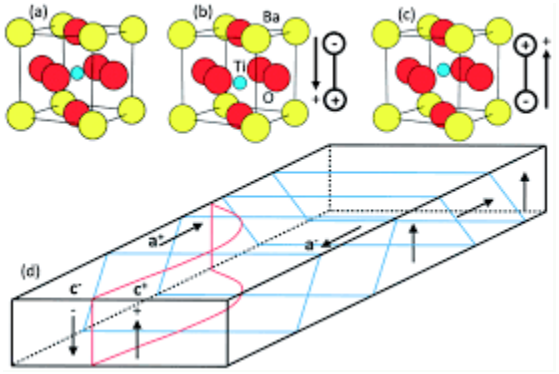
"We had final exams this week and with the help of fantastic website and the summary sheets I purchas I finished organic chemistry 1 with a 99.5 average. Classmates were upset with me for being the curve I blamed it on this website and directed them to che

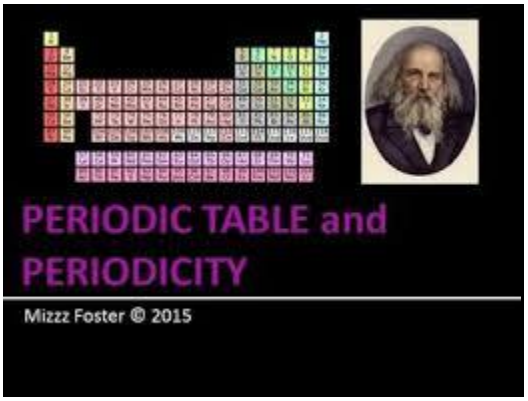
– **Paige J.**
Wright State University



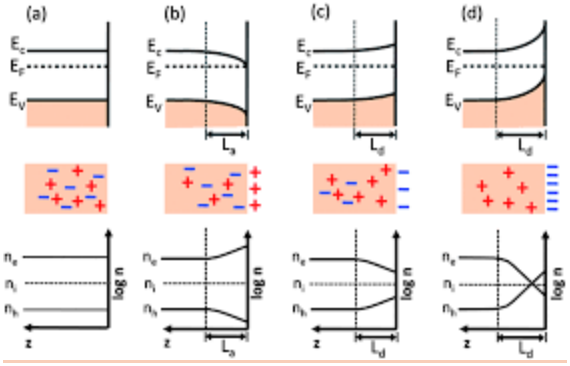

Periodic Table of the Lost Civilization
SCIENCE
This review game will test how well your students really understand the periodic properties.

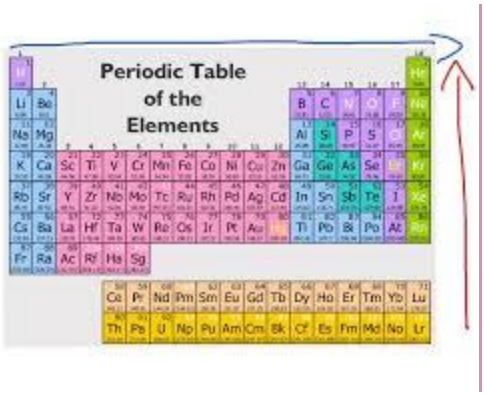


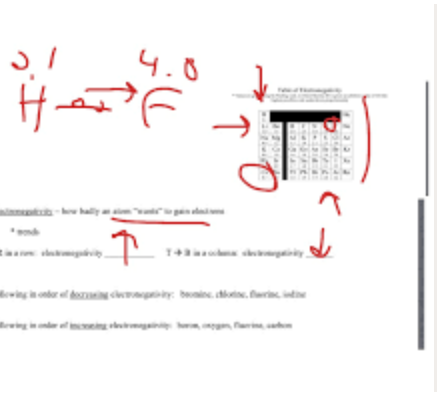

(a)
(b)
Ba
Ti
O
(c)
(d)
a+
a-
c-
c+

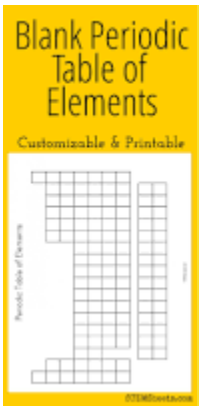

PERIODIC TABLE and PERIODICITY
Mizzz Foster © 2015



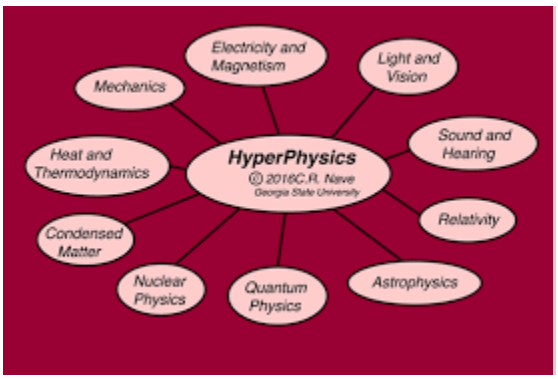

(a)
(b)
(c)
(d)
log n
z

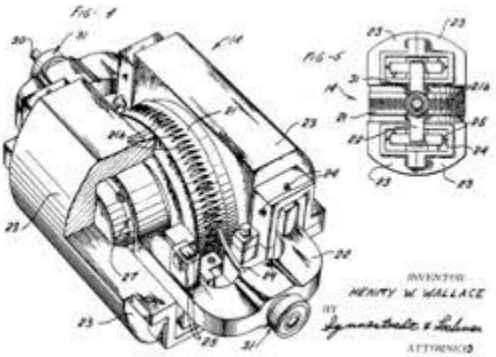

Periodic Table
of the
Elements


3.1
4.0

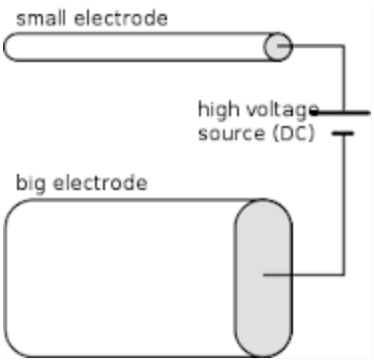

Blank Periodic Table of Elements
Customizable & Printable



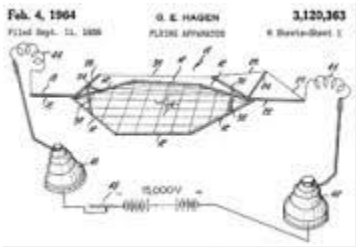

HyperPhysics
© 2016C.R. Nave
Georgia State University
Electricity and Magnetism
Light and Vision
Mechanics
Sound and Hearing
Heat and Thermodynamics
Relativity
Condensed Matter
Nuclear Physics
Quantum Physics
Astrophysics


INVENTOR
HENRY W WALLACE
ATTORNEYS




small electrode
high voltage
source (DC)
big electrode




Feb. 4, 1964
O. E. HAGEN
3,120,363
15,000V

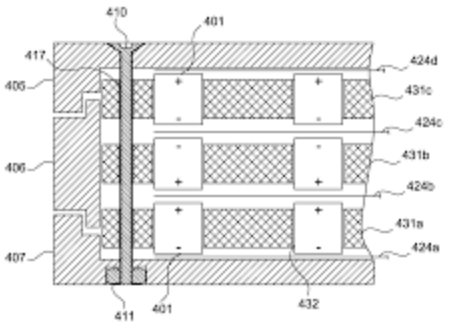
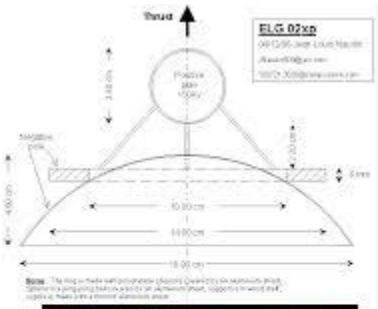
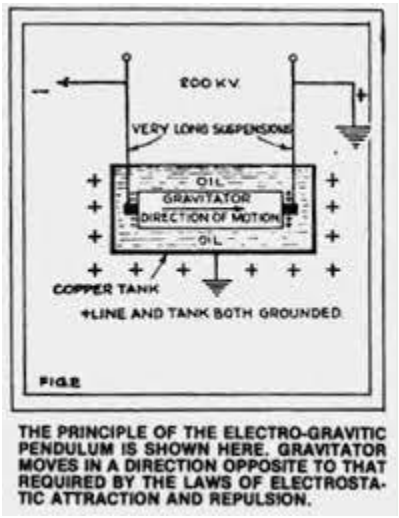


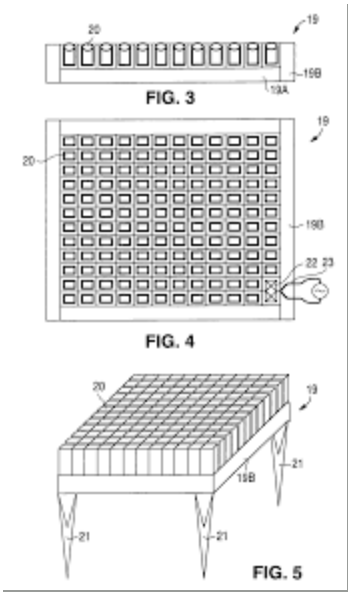
Fig.4(b)

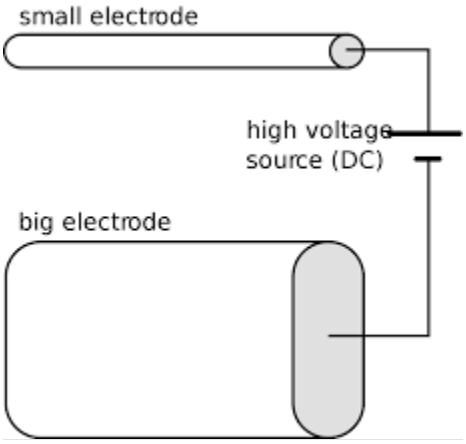


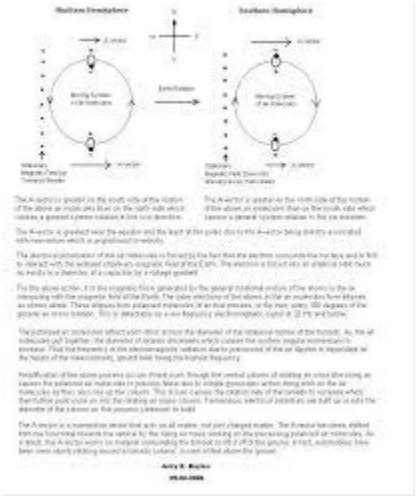


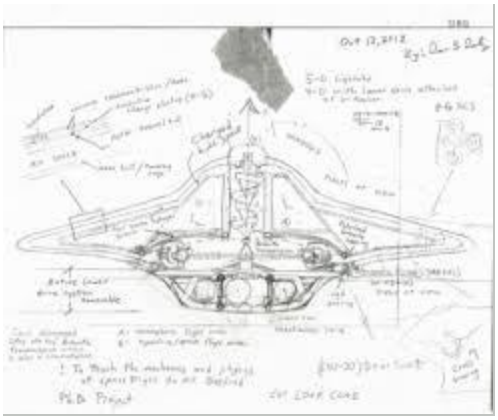


THE PRINCIPLE OF THE ELECTRO-GRAVITIC PENDULUM IS SHOWN HERE. GRAVITATOR MOVES IN A DIRECTION OPPOSITE TO THAT REQUIRED BY THE LAWS OF ELECTROSTATIC ATTRACTION AND REPULSION.

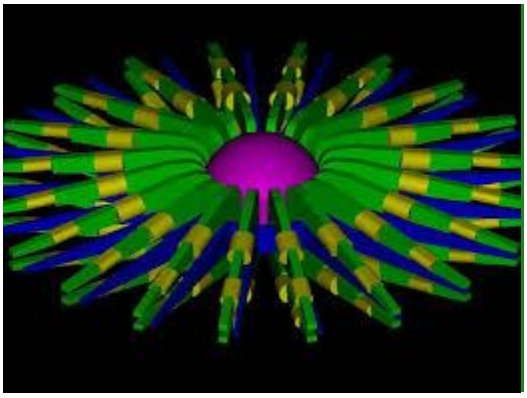


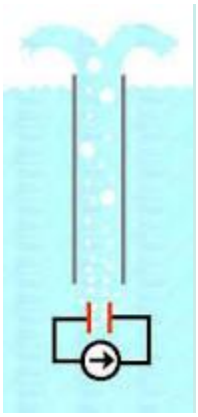












The following epsilo is not part of the opinion of the court. The staff of the Administrative Office of the Courts has prepared it for the convenience of the reader. It has neither been reviewed nor approved by the court. Please note that, in the interest of brevity, portions of the opinion may not have been summarized.

State v. Snyder, 337 N.J. Super. 59 (App. Div. 2001)

Defendant was convicted of driving while intoxicated in a trial de novo in the Law Division. Defendant had crashed into and damaged a parked car in the parking lot of a tavern, where he had spent the previous three hours. Defendant claimed that during this time he had had only three beers. After the accident, defendant parked his car and waited for his wife to pick him up. Defendant claimed that while waiting for his wife he drank three shots of whiskey from a bottle stored under his seat. In the meantime, unknown to defendant, a bystander called the police. The police administered two breathalyzer tests to defendant, approximately an hour and forty-five minutes and two hours after the accident, producing readings of .13% and .14%, respectively.

The Appellate Division affirmed, finding that the State had adduced sufficient evidence to prove its case beyond a reasonable doubt. The court noted that in general "proof of operation of a motor vehicle, coupled with a blood alcohol level of .10% or greater taken from a breath or blood test administered within a reasonable period of time after operation constitutes a per se violation of the statute [N.J.S.A. 39:4-50(a)]." The court found that here the breathalyzer tests had been administered within a reasonable time.

The court found it unnecessary for the State to address the effect of defendant's claim that he drank whiskey after operating the car. It stated that as a policy matter "New Jersey courts should not be quick to encourage a defense founded upon post-event voluntary ingestion of additional alcohol by a defendant." It also noted that there was "not one shred of corroborative objective or circumstantial evidence" supporting defendant's claim of post-accident drinking.

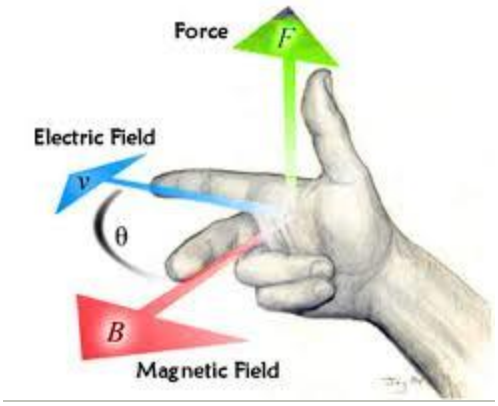
The full text of the case follows.

Copr. © West 2001 No Claim to Orig. U.S. Govt. Works

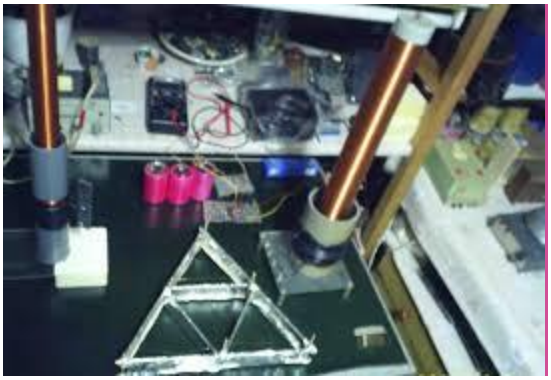
796 A.2d 315
(Cite as: 337 N.J.Super. 59, 796 A.2d 315)





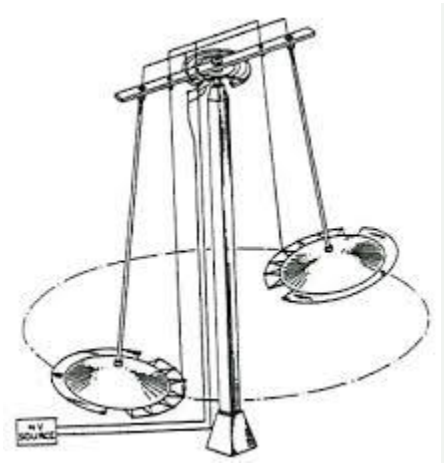




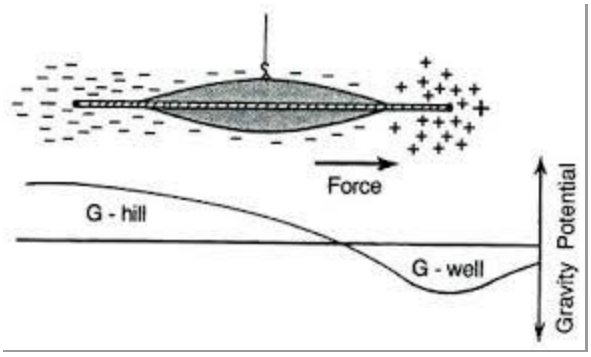




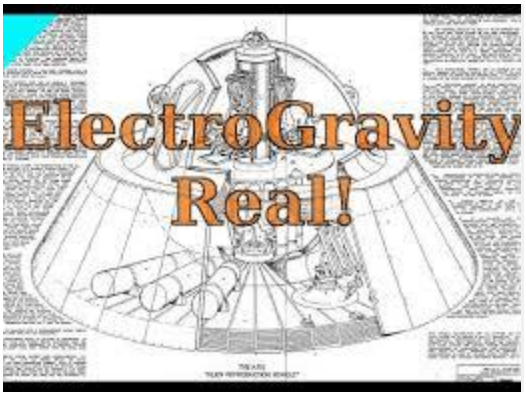


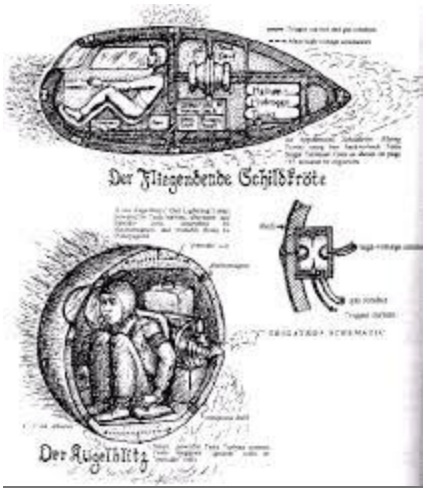

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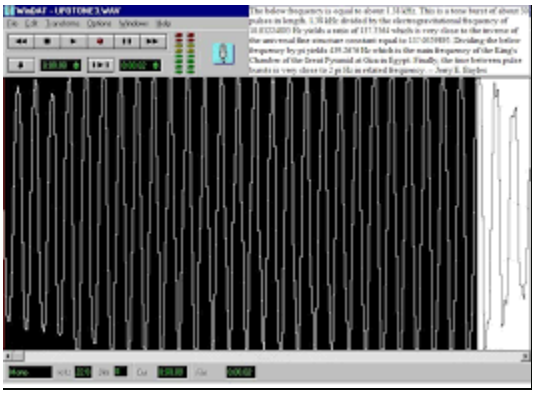


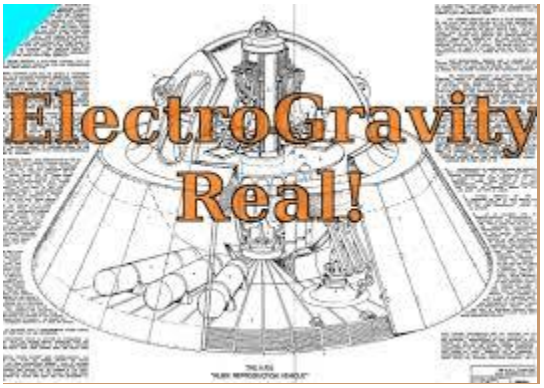

Force
G - hill
G - well
Gravity Potential

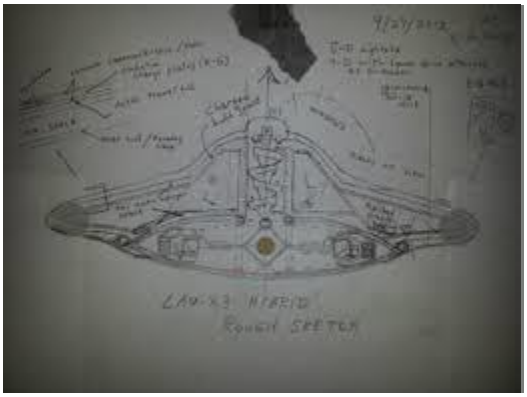

NM STATE
New Mexico 4-H Cloverbud
Project Activities

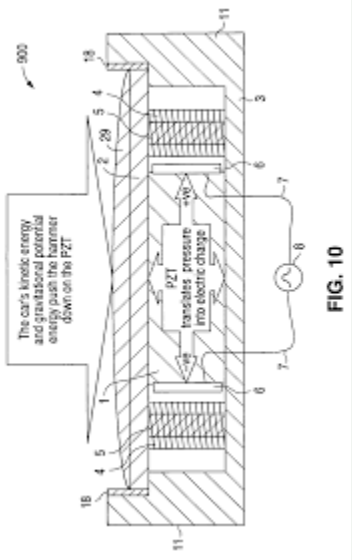

ElectroGravity
Real!

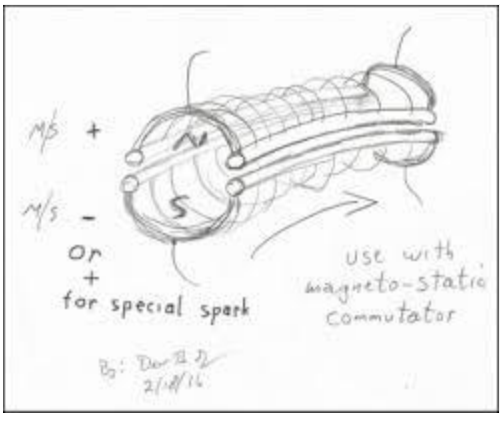

Der Fliegende Schildkröte
Der Kugelblitz

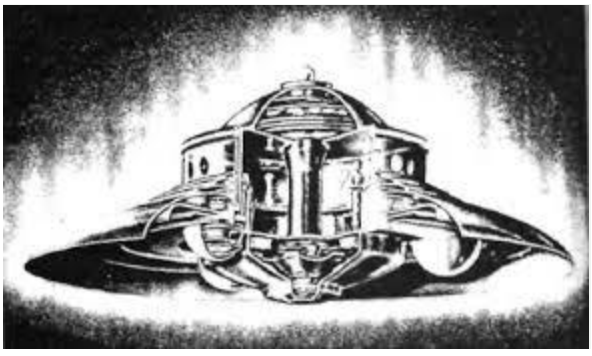


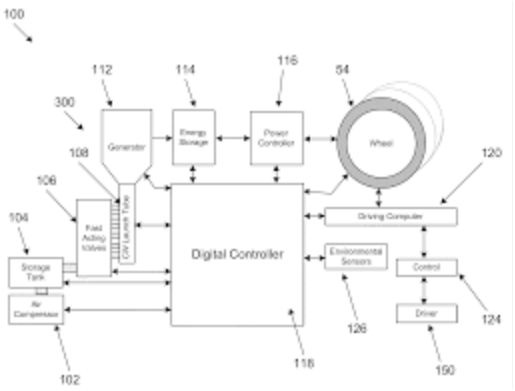

ElectroGravity
Real!



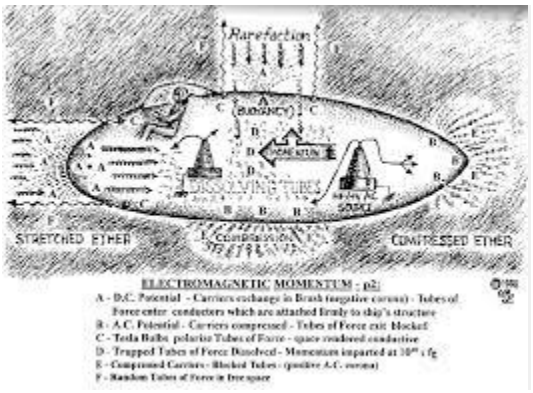

900
The car's kinetic energy and gravitational potential energy push the hammer down on the PZT
PZT translates pressure into electric charge
FIG. 10

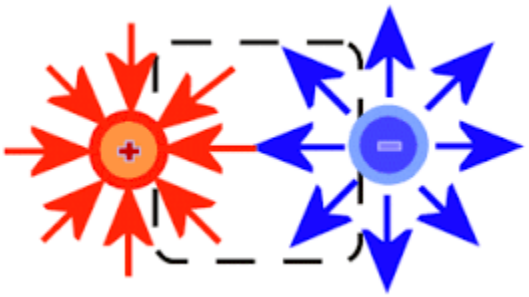

M/S +
M/S -
N
S
Or
+
for special spark
use with magneto-static commutator

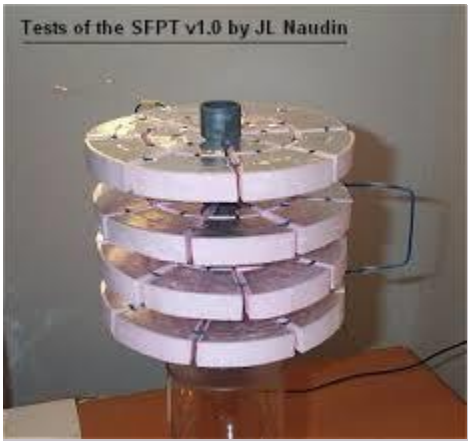



100
112
114
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300
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106
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Digital Controller
102
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150
126
124



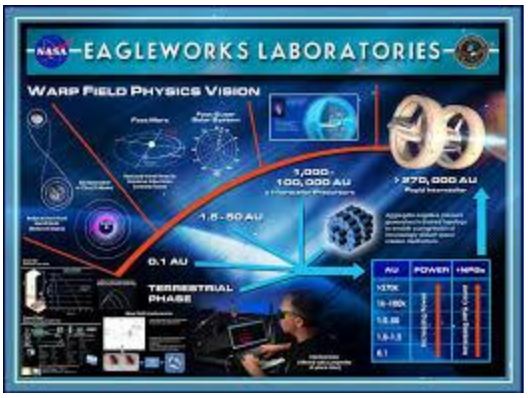

Rarefaction
STRETCHED ETHER
COMPRESSED ETHER
ELECTROMAGNETIC MOMENTUM - p2:

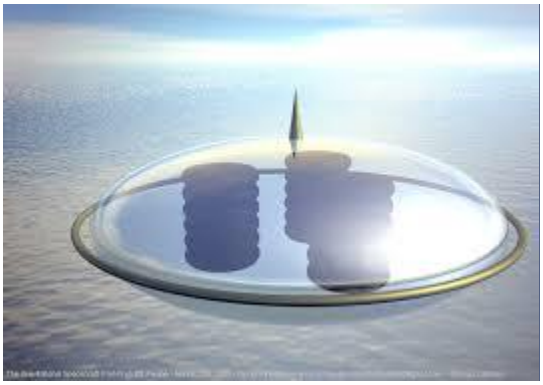


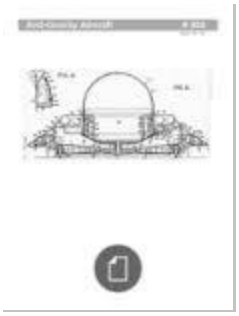

Tests of the SFPT v1.0 by JL Naudin

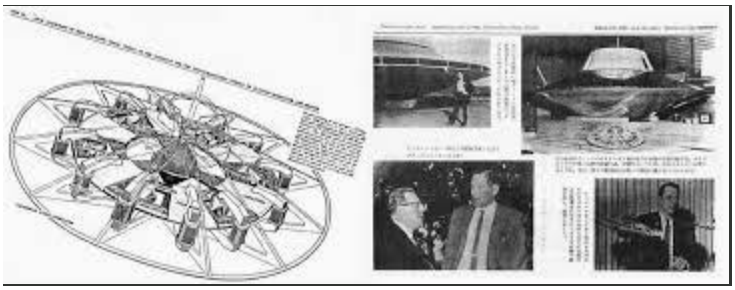


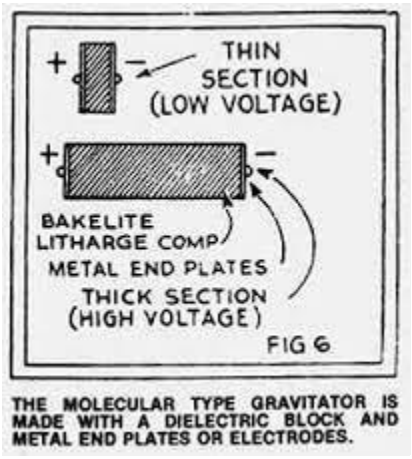



EAGLEWORKS LABORATORIES
WARP FIELD PHYSICS VISION
1,000 - 100,000 AU
> 270,000 AU
1.5 - 50 AU
0.1 AU
TERRESTRIAL PHASE
AU
POWER

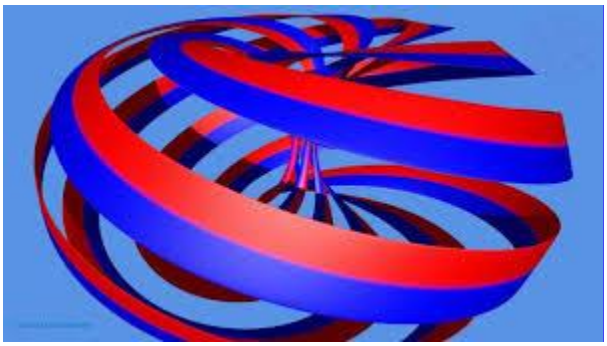


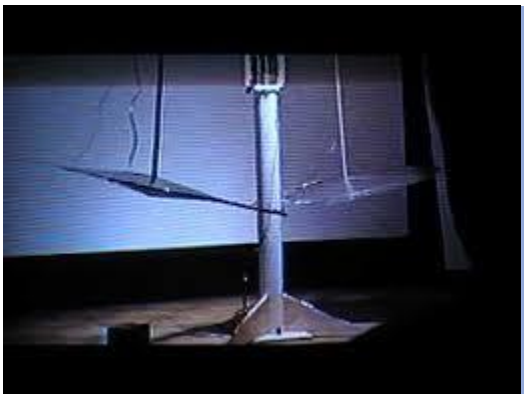


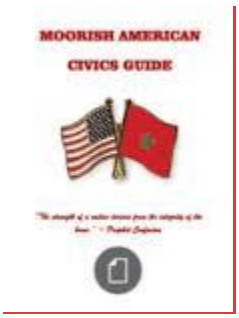




THE MOLECULAR TYPE GRAVITATOR IS MADE WITH A DIELECTRIC BLOCK AND METAL END PLATES OR ELECTRODES.



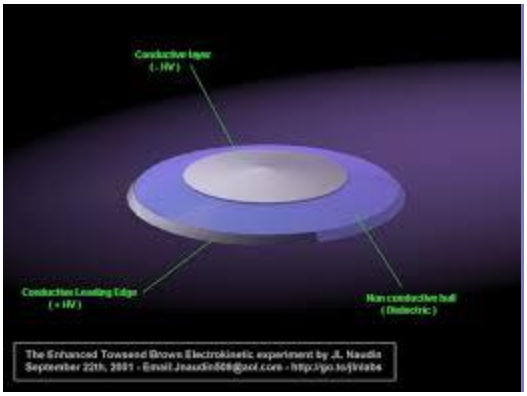






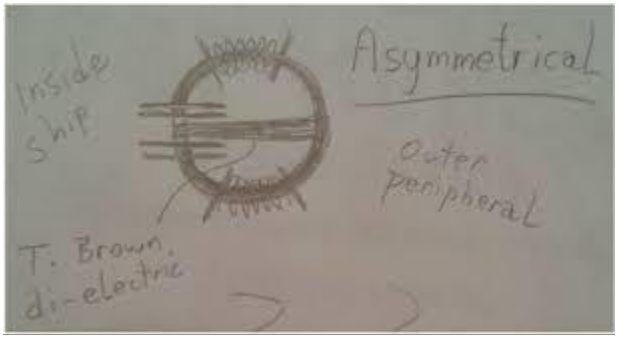





Conductive layer
(- HV)
Conductive Leading Edge
(+ HV)
Non conductive hull
(Dielectric)
The Enhanced Townsend Brown Electrokinetic experiment by JL Naudin
September 22th, 2001 - Email:jnaudin888@aol.com - http://go.to/jlnabs

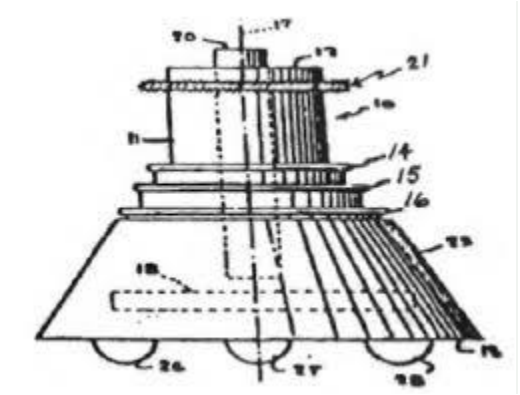

OVAL TECH


Enabling Electric Generation
and H_2 Production


Inside
ship
Asymmetrical
Outer
peripheral
T. Brown.
di-electric



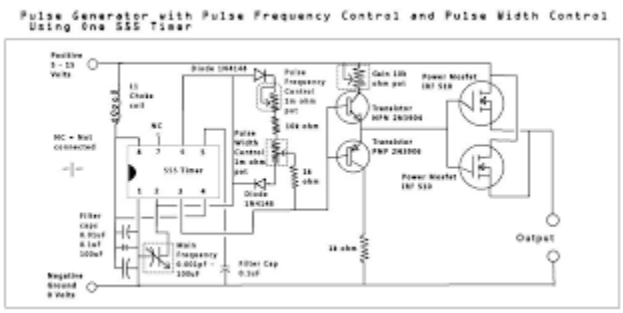


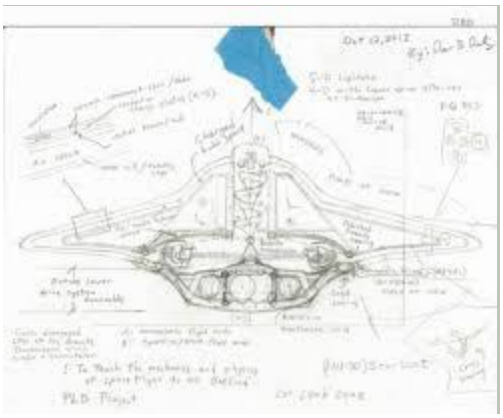

20
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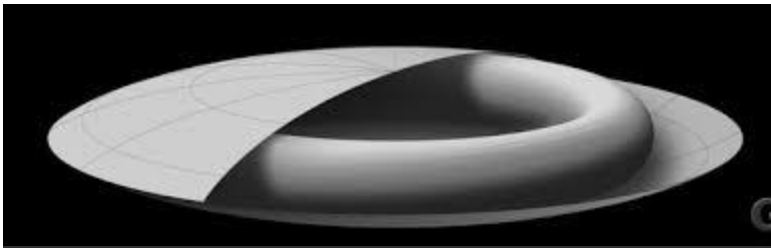

www.Magniwork.co.uk

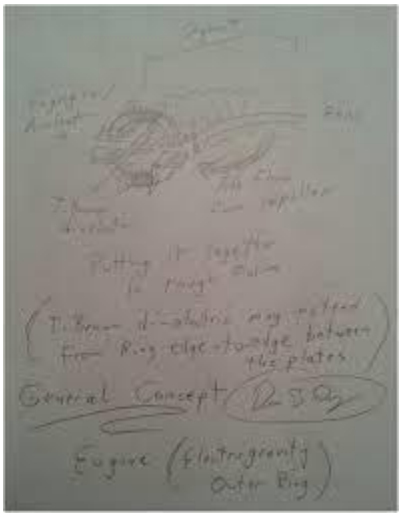

High-Voltage
Modules
ozcoils.com/NomadPower

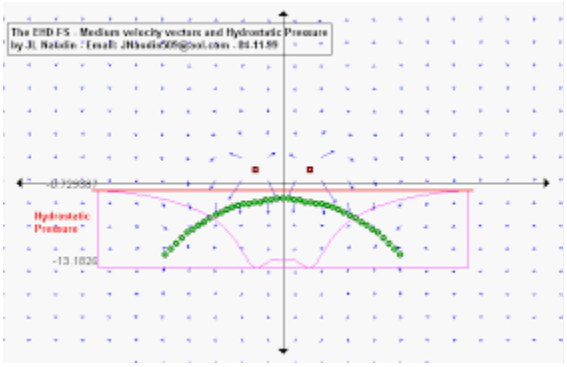

DC Converter
in: 1v - 6v
Out < 150kv
DC Converter
in: 1v - 6v
Out < 40kv
ozcoils.com/NomadPower

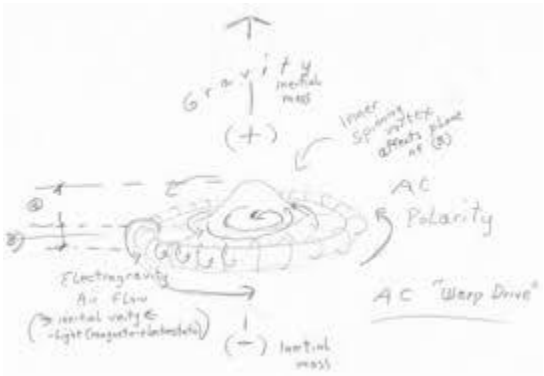

Pulse Generator with Pulse Frequency Control and Pulse Width Control
Using One 555 Timer
Positive
5 - 15
Volts
Diode 1N4148
Pulse
Frequency
Control
1m ohm pot
Gain 10k
ohm pot
Power Mosfet
IRF 510
Transistor
NPN 2N3906
Transistor
PNP 2N3906
Power Mosfet
IRF 510
100 ohm
1k
ohm
Diode
1N4148
555 Timer
Pulse
Width
Control
1m ohm
pot
Filter
caps
0.01uf
0.1uf
100uf
Main
Frequency
0.001uf -
100uf
10 ohm
Output
Negative
Ground
0 Volts

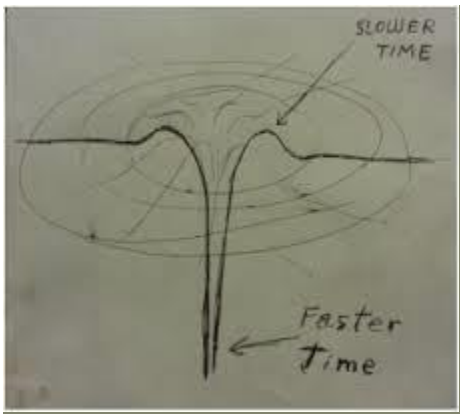


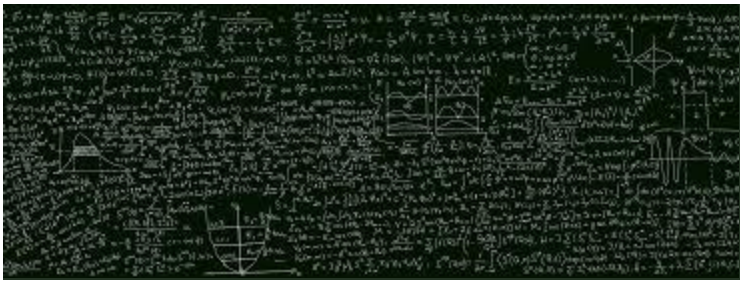


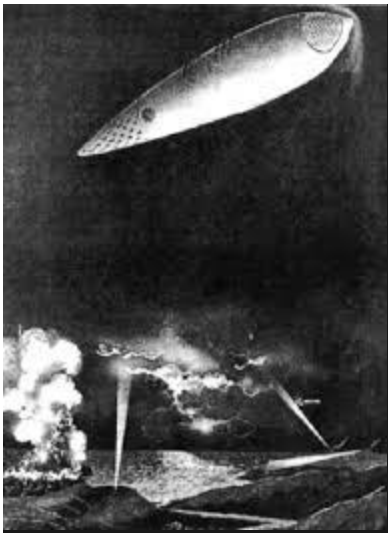



The EHD FS - Medium velocity vectors and Hydrostatic Pressure
Hydrostatic
"Pressure"

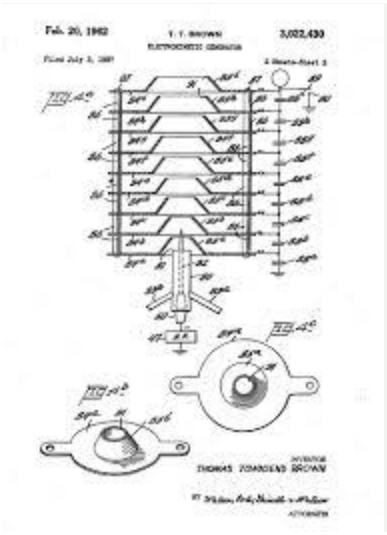

Gravity
inertial
mass
(+)
AC
Polarity
Electrogravity
Air Flow
AC "Warp Drive"
(-) Inertial
mass

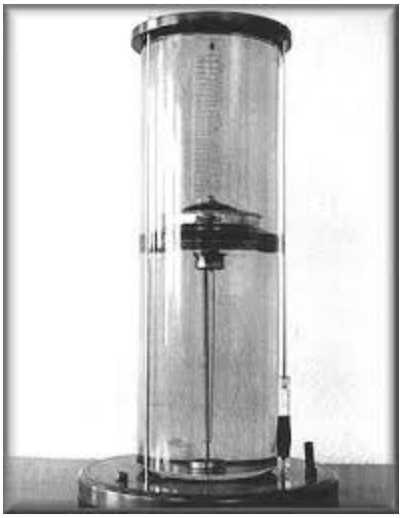

SLOWER
TIME
Faster
Time



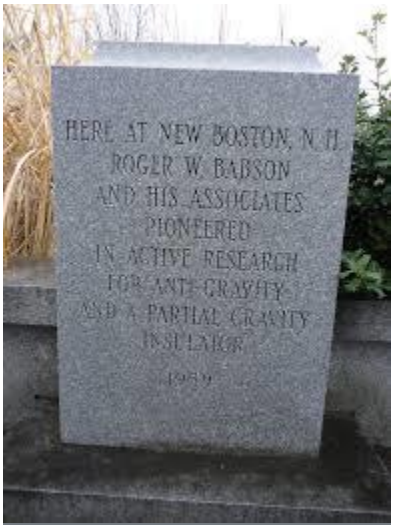


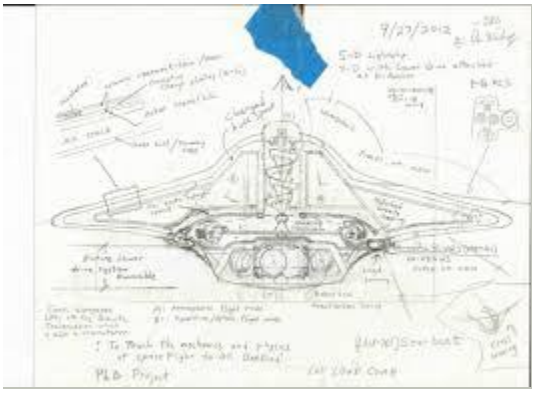

High-Voltage DC Generator PCBs
7kv
15kv
25kv





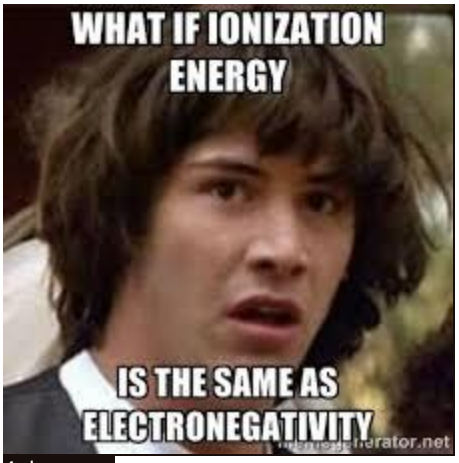
ANTIGRAVITY PROPULSION DEVICES



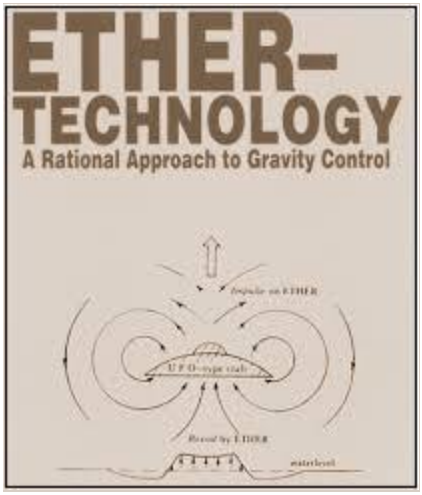




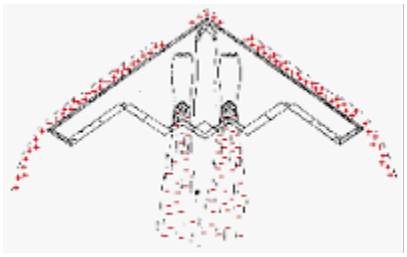



WHAT IF IONIZATION ENERGY
IS THE SAME AS ELECTRONEGATIVITY

4 days ago

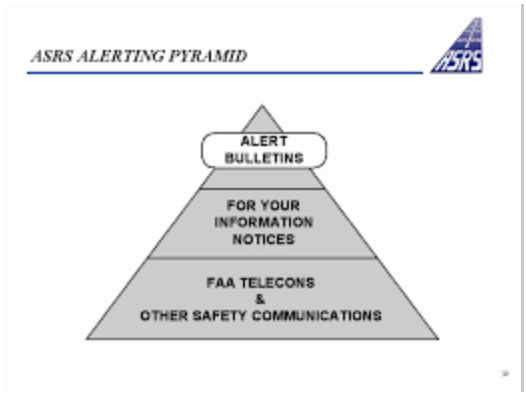

ETHER-TECHNOLOGY
A Rational Approach to Gravity Control


8th International Knowledge Seekers Workshop Feb 23 2016

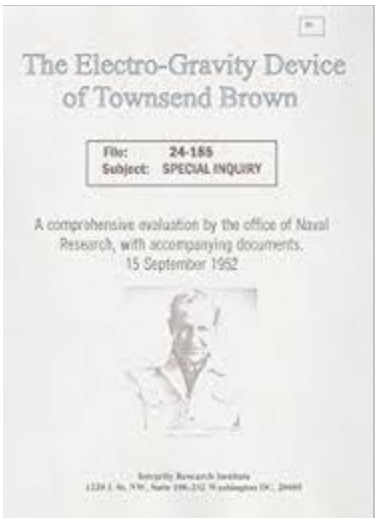


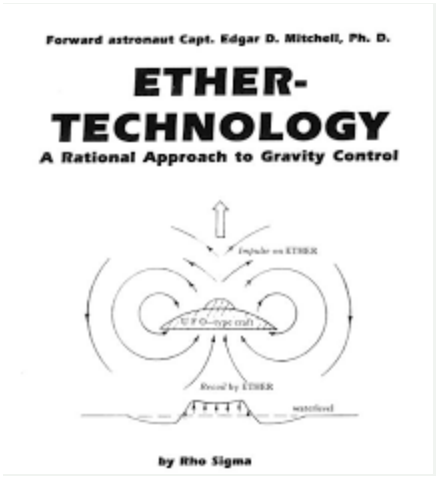


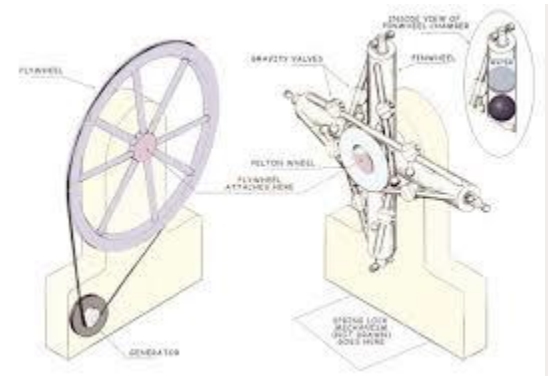


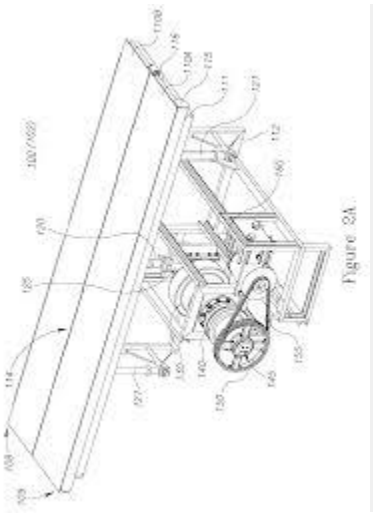

ASRS ALERTING PYRAMID
ALERT BULLETINS
FOR YOUR INFORMATION NOTICES
FAA TELECONS & OTHER SAFETY COMMUNICATIONS

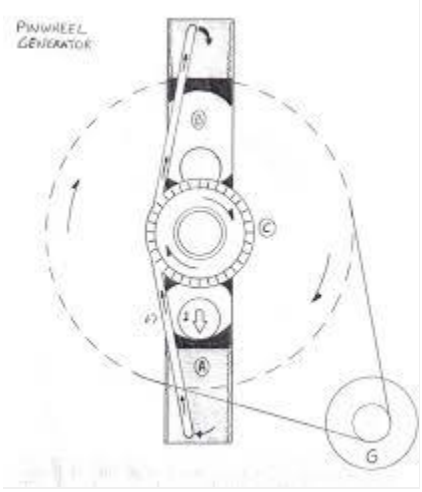

ELECTRONEGATIVITY:
ATTRACTING ALL THE ELECTRONS


The Electro-Gravity Device
of Townsend Brown
File: 24-185
Subject: SPECIAL INQUIRY
A comprehensive evaluation by the office of Naval
Research, with accompanying documents.
15 September 1952


Forward astronaut Capt. Edgar D. Mitchell, Ph. D.
ETHER-
TECHNOLOGY
A Rational Approach to Gravity Control
by Rho Sigma


FLYWHEEL
GRAVITY VALVES
PELTON WHEEL
GENERATOR

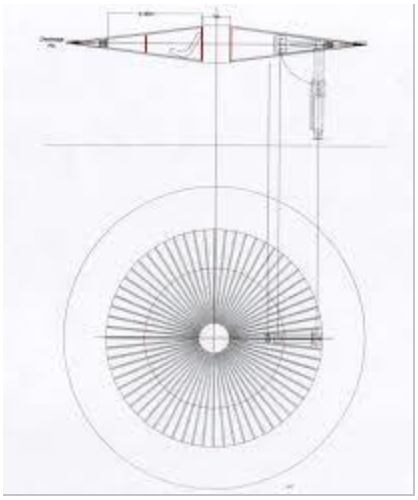

Figure 3A

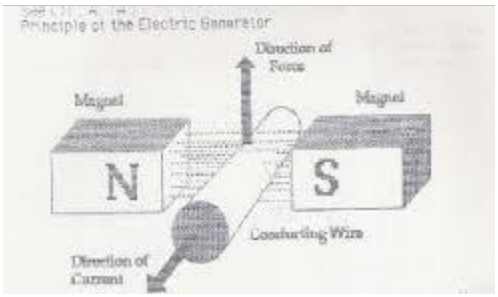

PINWHEEL
GENERATOR



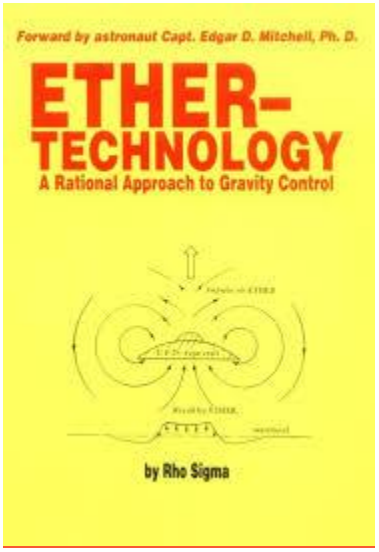

14A
15











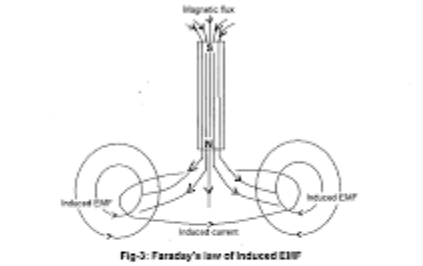


Fig-3: Faraday's law of Induced EMF

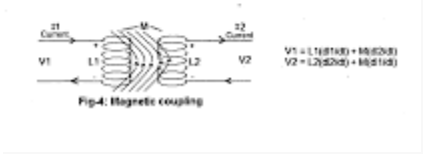
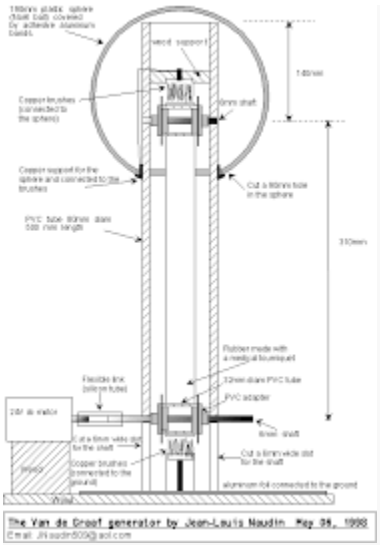
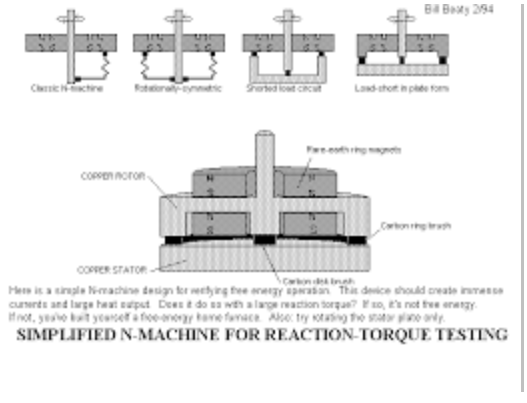


Fig-4: Magnetic coupling

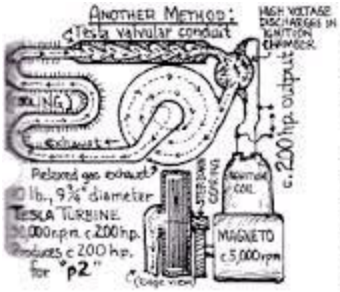


The Van de Graaf generator by Jean-Louis Naudin May 06, 1998
Email JLnaudin@00@aol.com



Here is a simple N-machine design for verifying free energy operation. This device should create immense currents and large heat output. Does it do so with a large reaction torque? If so, it's not free energy. If not, you've built yourself a free-energy home furnace. Also: try rotating the stator plate only.

SIMPLIFIED N-MACHINE FOR REACTION-TORQUE TESTING



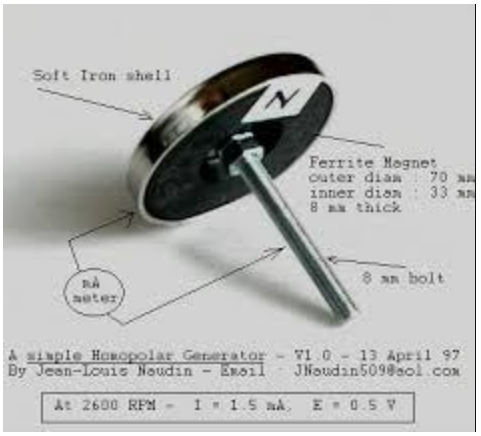
THE HELIUM REACTION:

The He is excited by electron bombardment (electrical discharge from a Van de Graaff). This may also be produced in the trigatron. The helium impairs its electrons, promotes one electron to the 2s state, and releases 460 Kcal/gatom (roughly equivalent to the energy in 460 loaves of bread from each g-atom of helium, more than enough energy to run a freight train).

As for the question of whether or not Germany could have obtained helium, read Charles Higham's *Trading With the Enemy*. Otherwise, helium can be artificially produced by bombardment of Li or boron by high velocity photons or alpha rays. A Tesla bath would do that. Actually, bombardment of any element below At. No. 19 with a Tesla bath will produce helium.

Freighters used in German ships fed with helium, to produced the propulsive electrical discharges is likely, since I have found so many trigatrons related to flying saucer salvage, and that kind of power produced at the place of usage (the surface of the ships) would explain the brightness of the discharges.





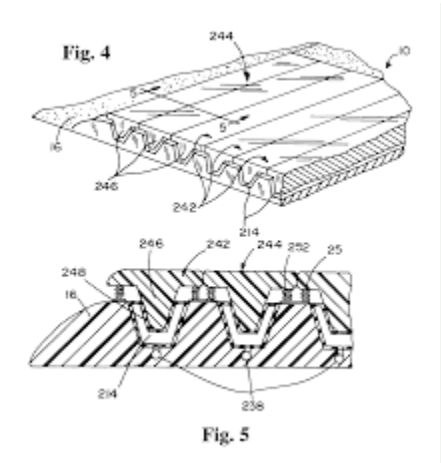


Fig. 5

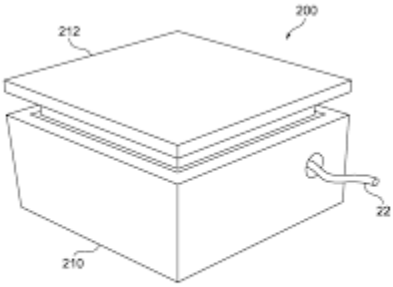


Fig.2(a)

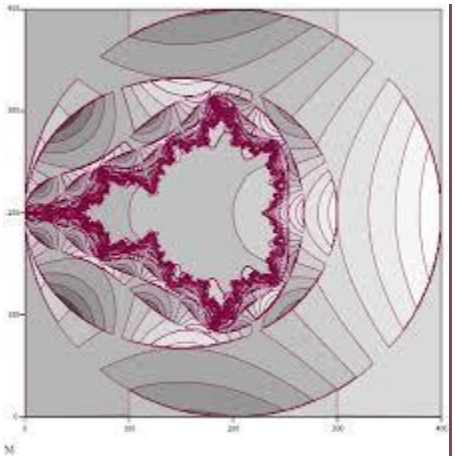


Figure 1

$$\text{Force} = \frac{d\Gamma}{dt} = \text{amp} \cdot \text{cm}^2 \cdot \frac{\text{kg}}{\text{amp} \cdot \text{cm}^2 \cdot \text{sec}} \cdot \frac{\text{cm}^2}{\text{sec}} \cdot \frac{\text{kg}}{\text{cm}^2 \cdot \text{sec}} \cdot \frac{\text{kg} \cdot \text{m}}{\text{sec}^2} = \text{newtons}$$

Figure 2

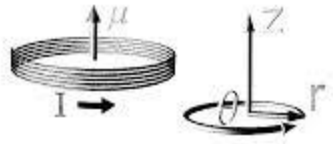
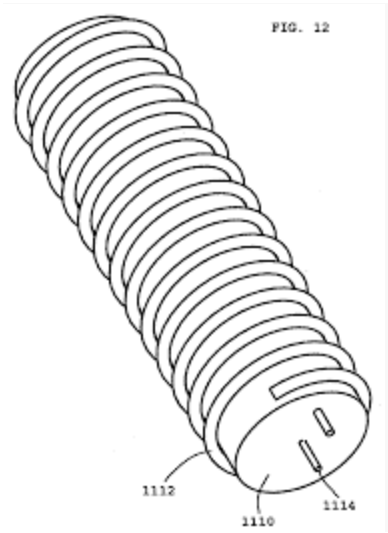


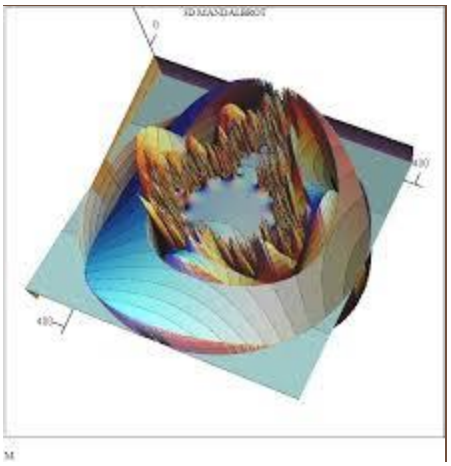
Figure 3

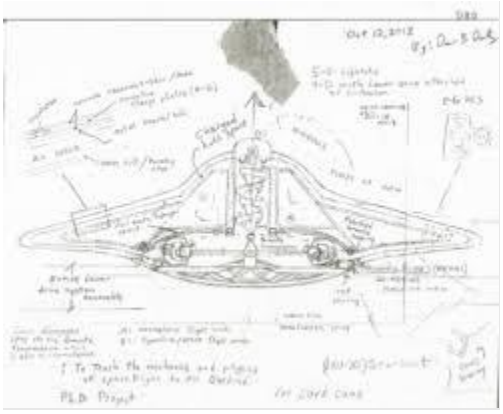
$$B_p = \mu i l$$

Figure 4

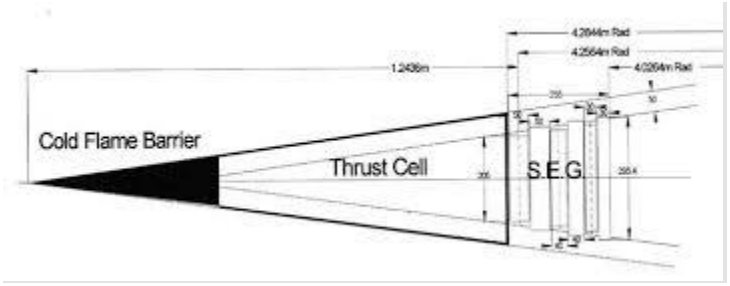



FIG. 12
1112
1110
1114






The Van de Graaf generator
Built by JL Naudin -05-06-98


4.284m Rad
4.256m Rad
4.226m Rad
1.248m
Cold Flame Barrier
Thrust Cell
S.E.G.

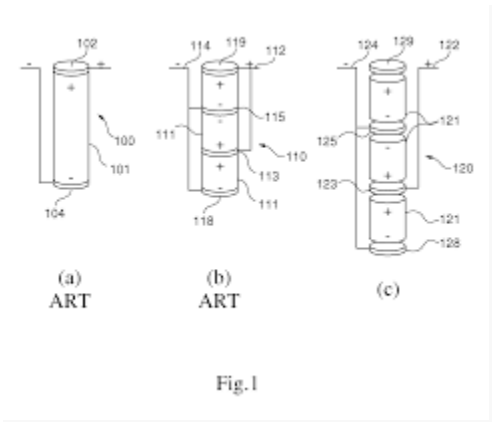
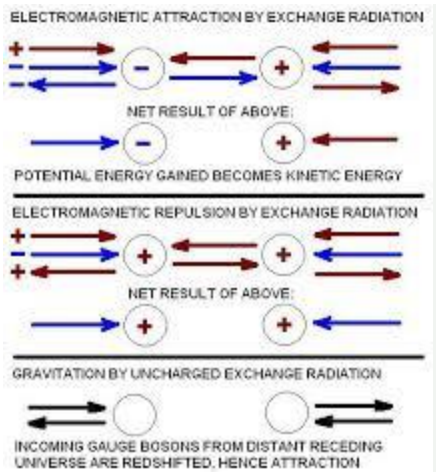

102
100
101
104
114
119
112
115
111
110
113
118
111
124
129
122
121
125
120
123
121
128
(a)
ART
(b)
ART
(c)

Fig.1



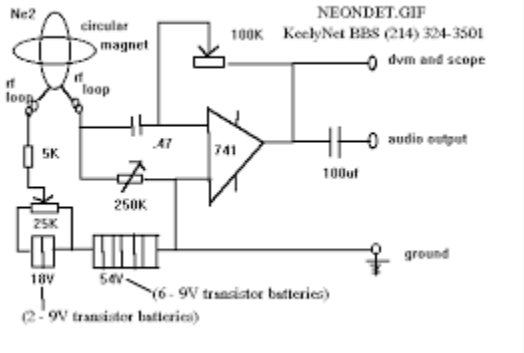



Brasília
INSTITUTO DE TECNOLOGIAS SUSTENTÁVEIS
NIKOLA TESLA


ELECTROMAGNETIC ATTRACTION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
POTENTIAL ENERGY GAINED BECOMES KINETIC ENERGY
ELECTROMAGNETIC REPULSION BY EXCHANGE RADIATION
NET RESULT OF ABOVE:
GRAVITATION BY UNCHARGED EXCHANGE RADIATION
INCOMING GAUGE BOSONS FROM DISTANT RECEDING UNIVERSE ARE REDSHIFTED, HENCE ATTRACTION


AQUAPOL
„Increase of energy" phenomena in nature water hoses




NEONDET.GIF
KeelyNet BBS (214) 324-3501
Ne2
circular magnet
rf loop
rf loop
100K
dvm and scope
.47
741
audio output
100uf
5K
250K
25K
18V
54V
ground
(6 - 9V transistor batteries)
(2 - 9V transistor batteries)



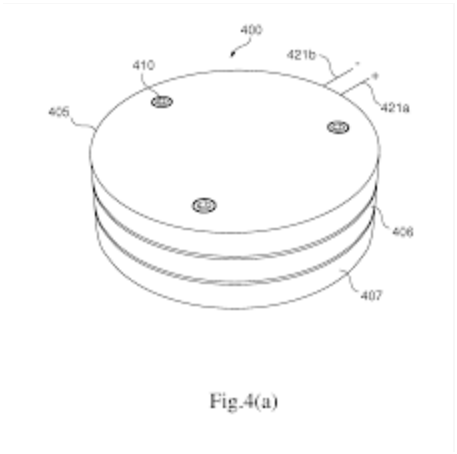
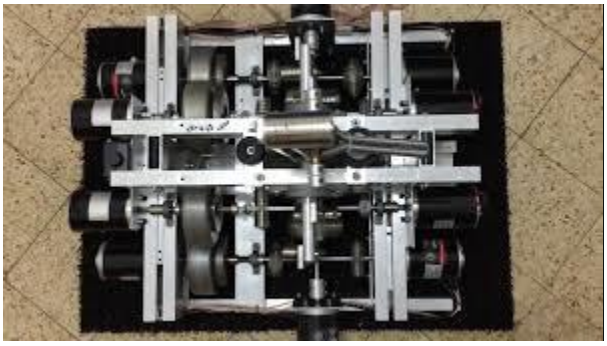
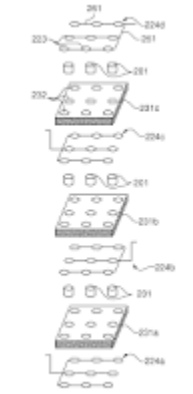
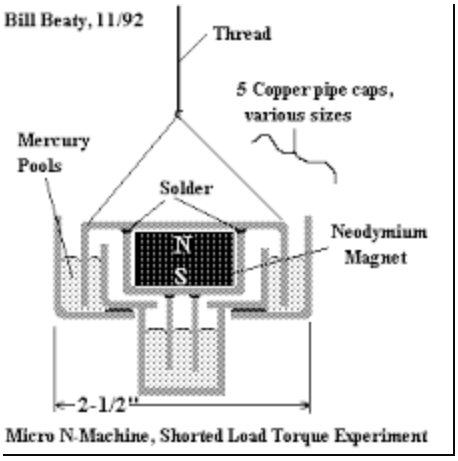

400
410
421b
421a
406
406
407

Fig.4(a)





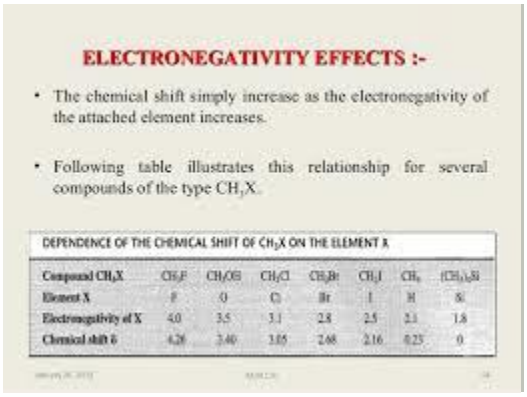




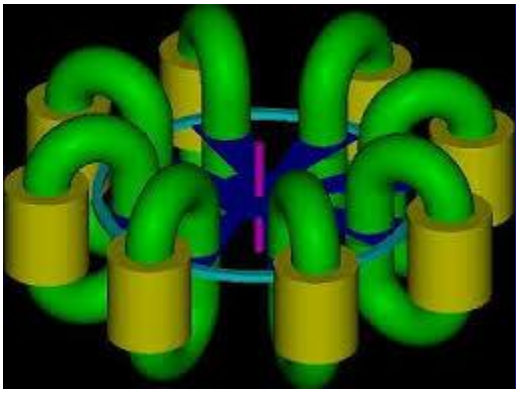
Micro N-Machine, Shorted Load Torque Experiment





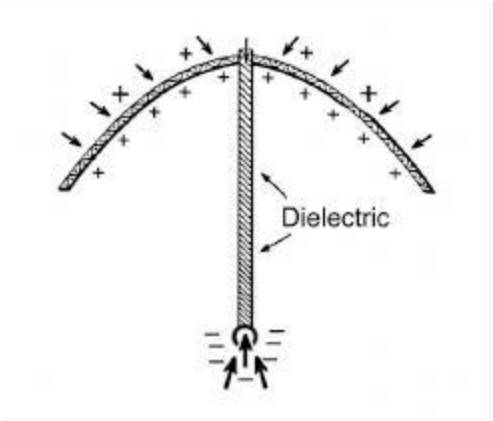


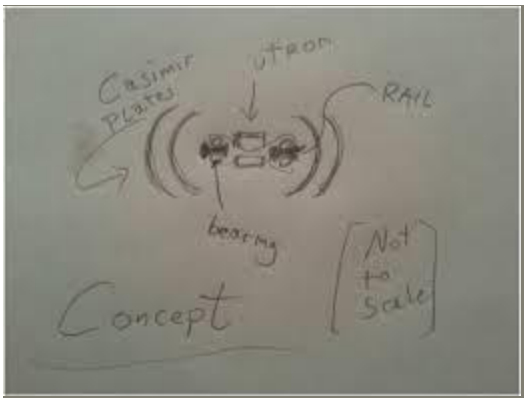




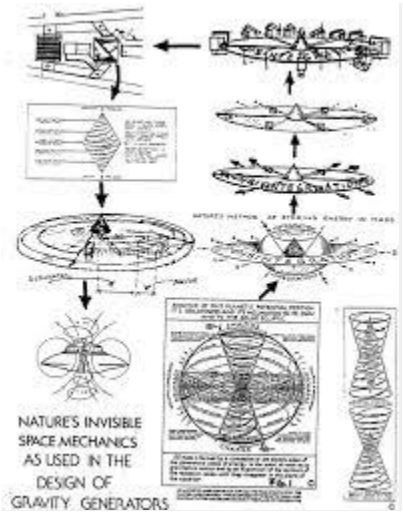


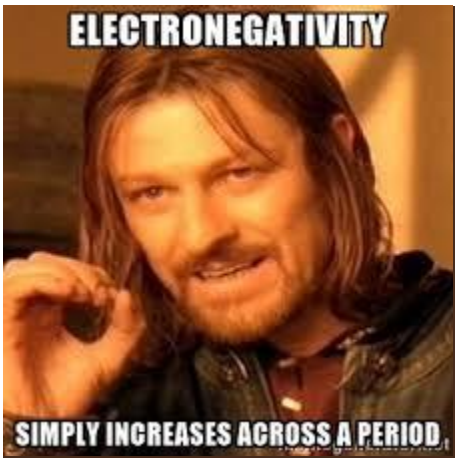


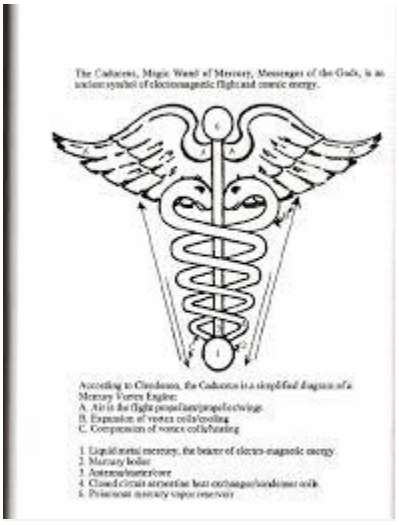

Dielectric

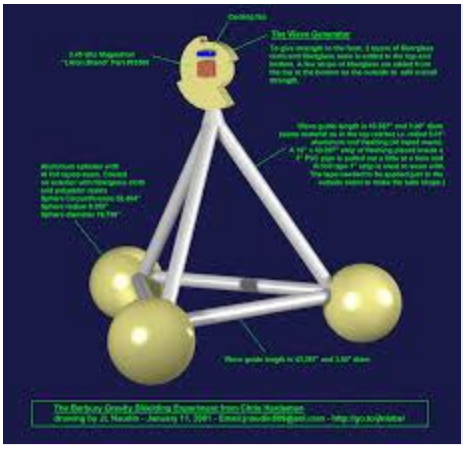

Casimir Plates
Proton
RAIL
bearing
Concept
[Not to Scale]



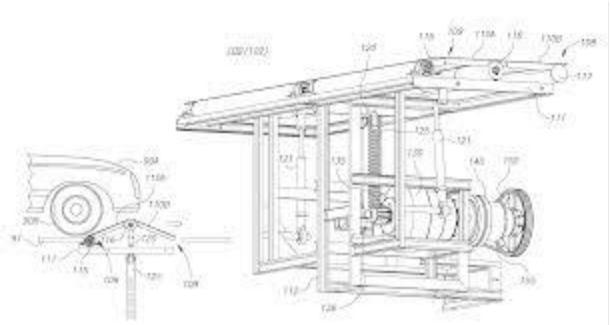

NATURE'S INVISIBLE SPACE MECHANICS AS USED IN THE DESIGN OF GRAVITY GENERATORS

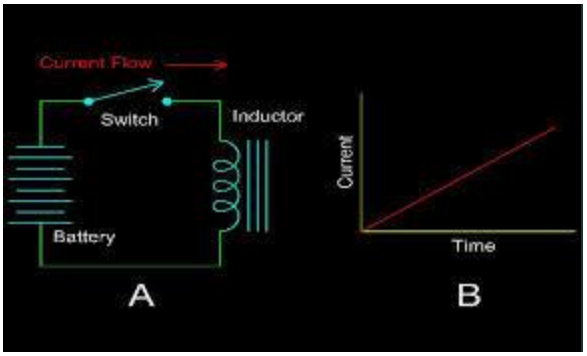

ELECTRONEGATIVITY
SIMPLY INCREASES ACROSS A PERIOD

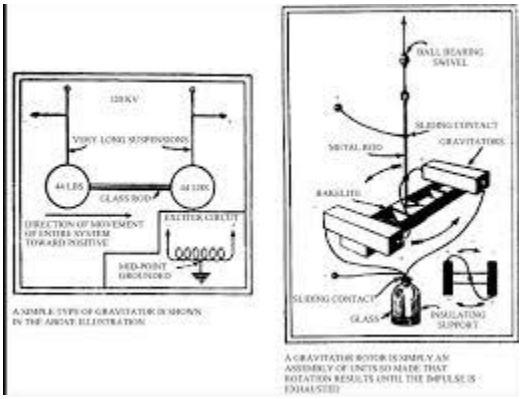

The Caduceus, Magic Wand of Mercury, Messenger of the Gods, is an ancient symbol of electromagnetic flight and cosmic energy.
According to Clendenon, the Caduceus is a simplified diagram of a Mercury Vortex Engine:
A. Air is the flight propellant/propeller/wing.
B. Expansion of vortex coils/cooling
C. Compression of vortex coils/heating
1. Liquid metal mercury, the source of electro-magnetic energy
2. Mercury boiler
3. Antenna/counterpoise
4. Closed circuit serpentine heat exchanger/condenser coils
5. Pressurized mercury vapor reservoir

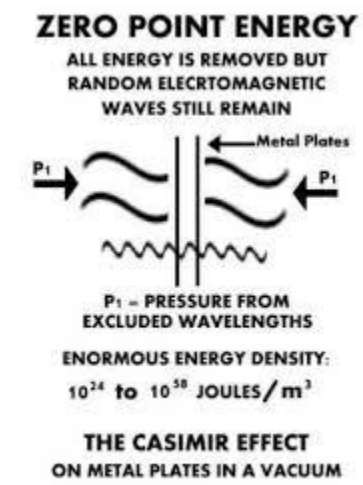


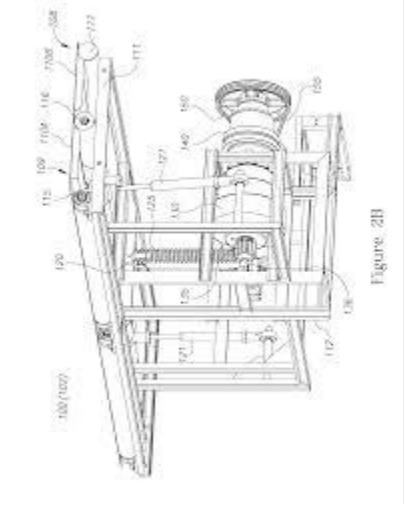


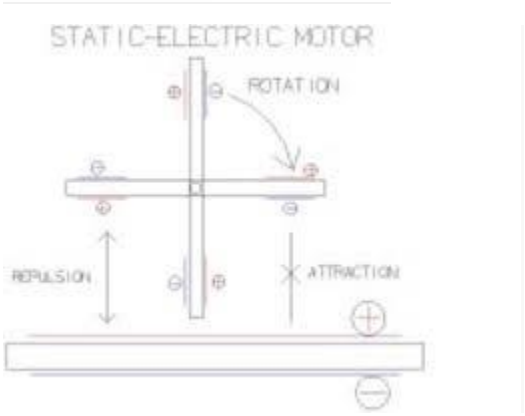


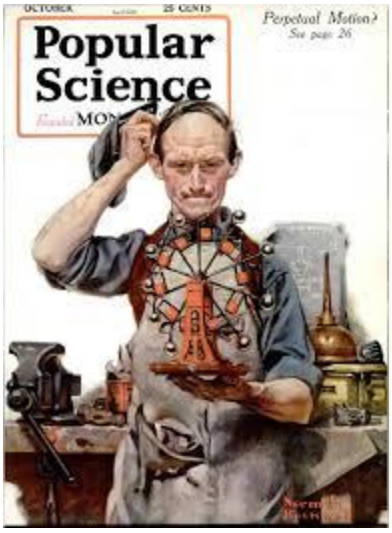

Current Flow
Switch
Inductor
Battery
Current
Time
A
B


120 KV
VERY LONG SUSPENSIONS
44 LBS
GLASS ROD
EXCITER CIRCUIT
DIRECTION OF MOVEMENT OF ENTIRE SYSTEM TOWARD POSITIVE
MID-POINT GROUNDED
A SIMPLE TYPE OF GRAVITATOR IS SHOWN IN THE ABOVE ILLUSTRATION
BALL BEARING SWIVEL
SLIDING CONTACT
METAL ROD
GRAVITATORS
BAKELITE
SLIDING CONTACT
GLASS
INSULATING SUPPORT
A GRAVITATOR ROTOR IS SIMPLY AN ASSEMBLY OF UNITS SO MADE THAT ROTATION RESULTS UNTIL THE IMPULSE IS EXHAUSTED


ZERO POINT ENERGY
ALL ENERGY IS REMOVED BUT
RANDOM ELECRTOMAGNETIC
WAVES STILL REMAIN
Metal Plates
P1
P1
P1 = PRESSURE FROM
EXCLUDED WAVELENGTHS
ENORMOUS ENERGY DENSITY:
10^24 to 10^58 JOULES/m^3
THE CASIMIR EFFECT
ON METAL PLATES IN A VACUUM

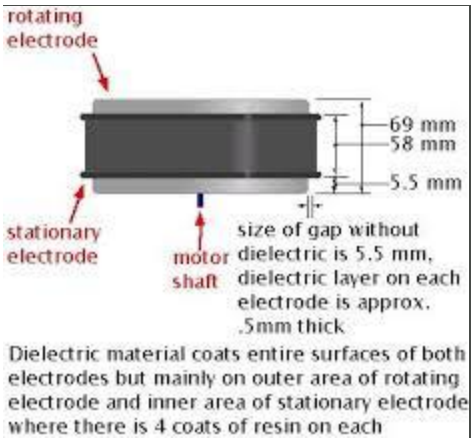

Figure 2B

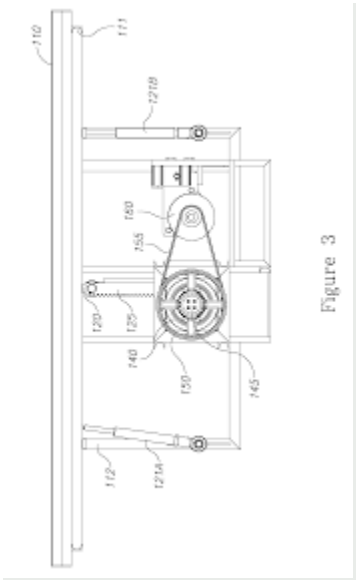

STATIC-ELECTRIC MOTOR
ROTATION
REPULSION
ATTRACTION


OCTOBER
25 CENTS
Popular Science
Perpetual Motion?
See page 26

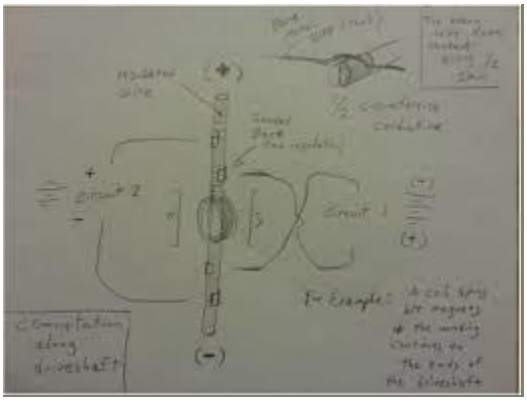


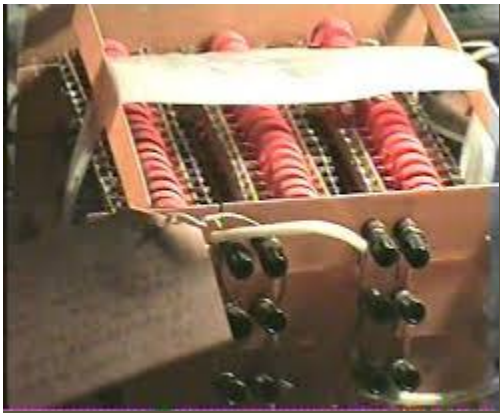

input:1.5v
output

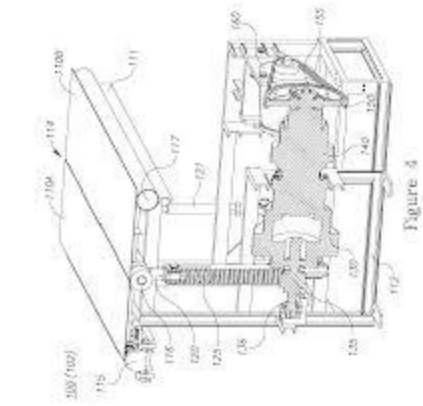

rotating electrode
69 mm
58 mm
5.5 mm
stationary electrode
motor shaft
size of gap without dielectric is 5.5 mm, dielectric layer on each electrode is approx. .5mm thick
Dielectric material coats entire surfaces of both electrodes but mainly on outer area of rotating electrode and inner area of stationary electrode where there is 4 coats of resin on each


Figure 3

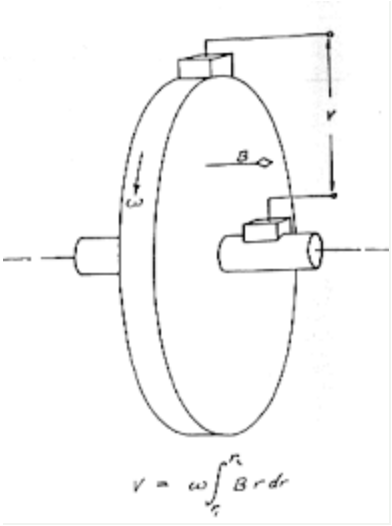

High-Voltage Modules





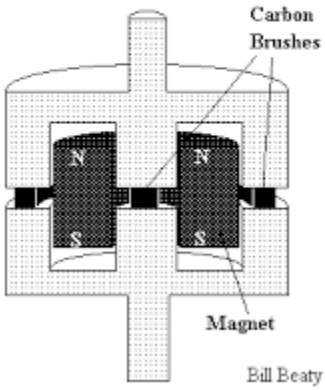

Figure 4



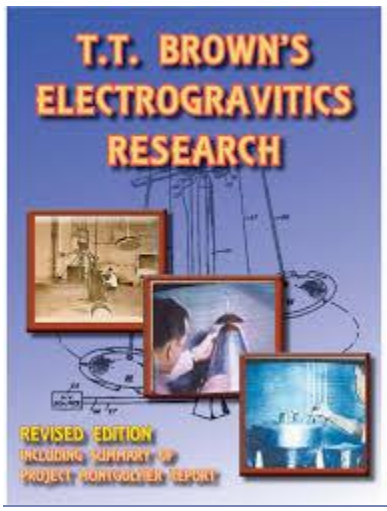


Symmetrical N-machine with shorted load.

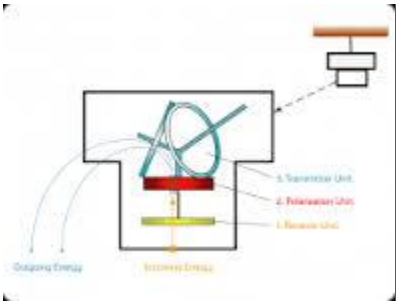
Which is rotor, which is stator?

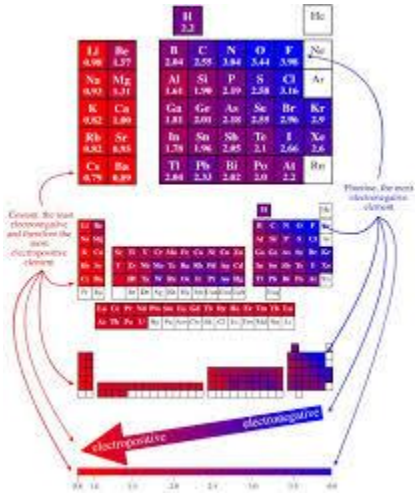


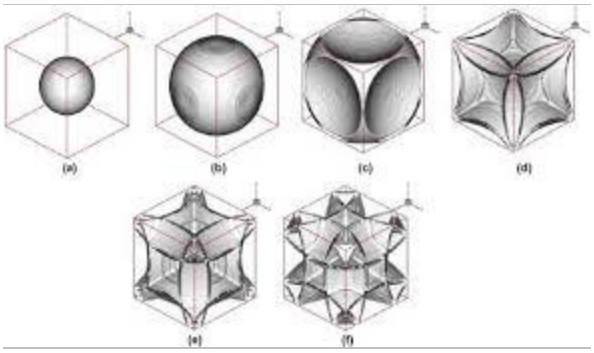
Bill Beaty 3/94



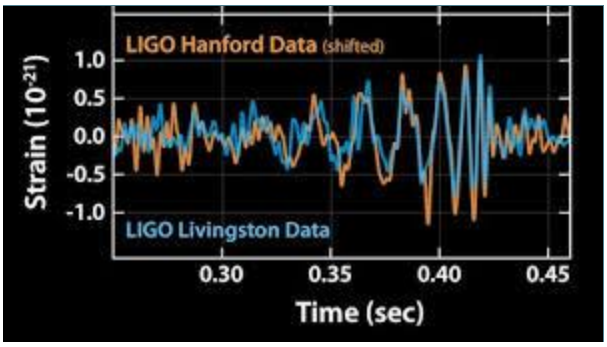




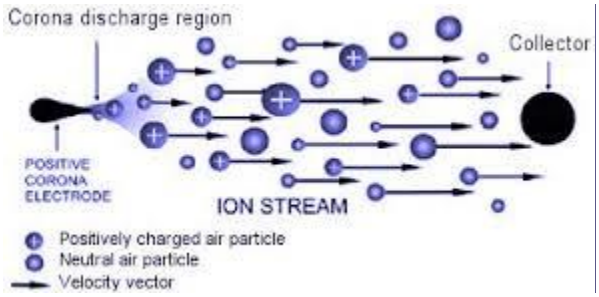


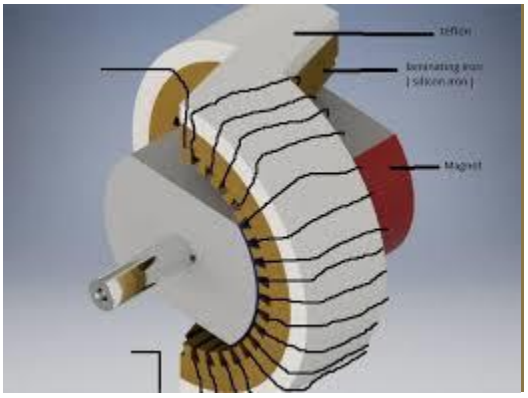


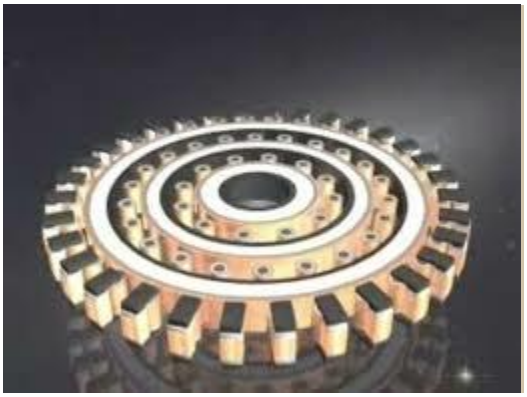



LIGO Hanford Data (shifted)
LIGO Livingston Data
Strain (10^{-21})
1.0
0.5
0.0
-0.5
-1.0
0.30
0.35
0.40
0.45
Time (sec)



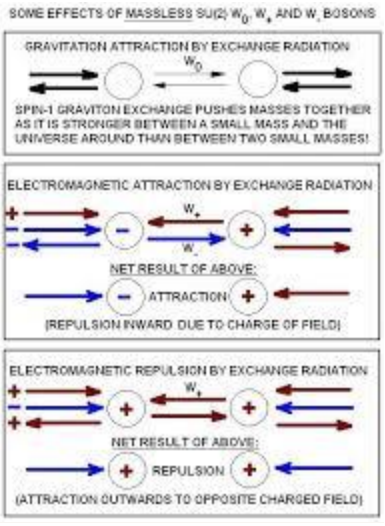

Corona discharge region
Collector
POSITIVE CORONA ELECTRODE
ION STREAM
Positively charged air particle
Neutral air particle
Velocity vector


Magnet



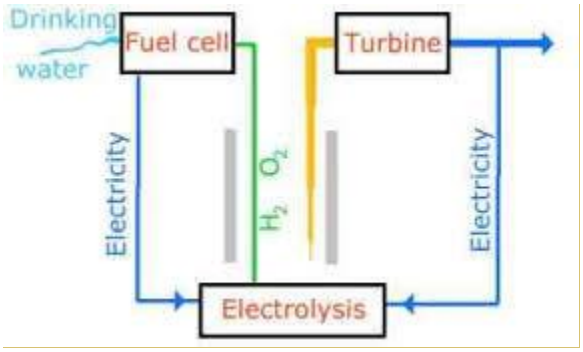


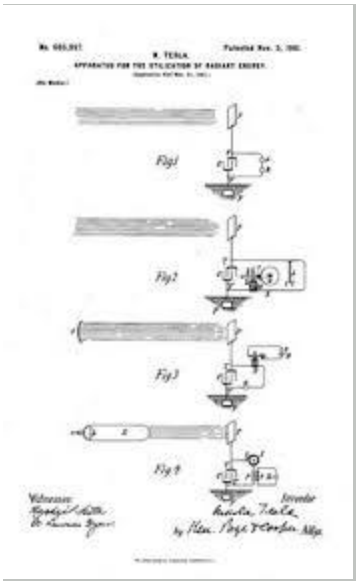

145. 120.

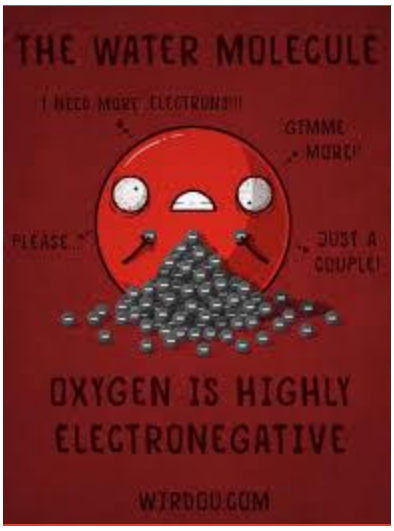

SOME EFFECTS OF MASSLESS SU(2) W_0, W_+ AND W_- BOSONS
GRAVITATION ATTRACTION BY EXCHANGE RADIATION
W_0
SPIN-1 GRAVITON EXCHANGE PUSHES MASSES TOGETHER AS IT IS STRONGER BETWEEN A SMALL MASS AND THE UNIVERSE AROUND THAN BETWEEN TWO SMALL MASSES!
ELECTROMAGNETIC ATTRACTION BY EXCHANGE RADIATION
W_+
W_-
NET RESULT OF ABOVE:
ATTRACTION
(REPULSION INWARD DUE TO CHARGE OF FIELD)
ELECTROMAGNETIC REPULSION BY EXCHANGE RADIATION
W_+
NET RESULT OF ABOVE:
REPULSION
(ATTRACTION OUTWARDS TO OPPOSITE CHARGED FIELD)

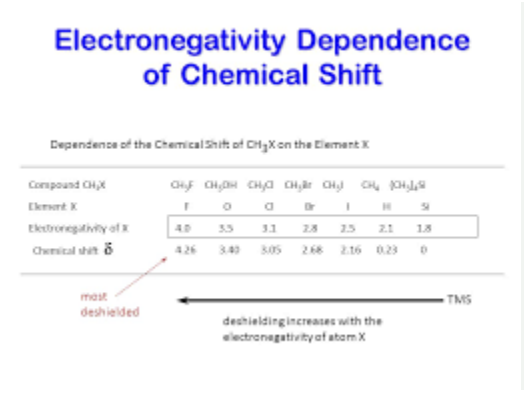


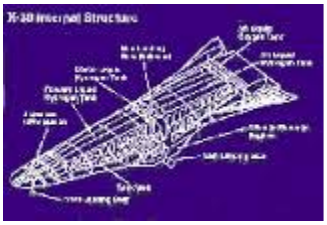

OPEN UP INTERNET EXPLORER
Y U KNOW USE FIREFOX?
memegenerator.net

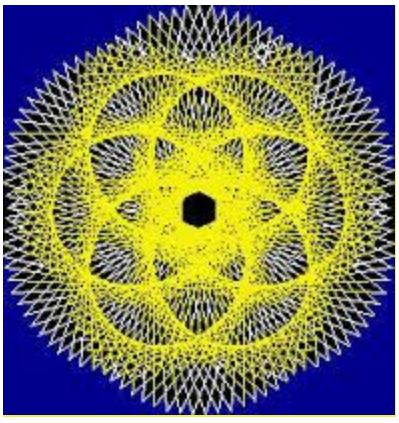

Drinking water
Fuel cell
Turbine
Electricity
H_2 O_2
Electricity
Electrolysis



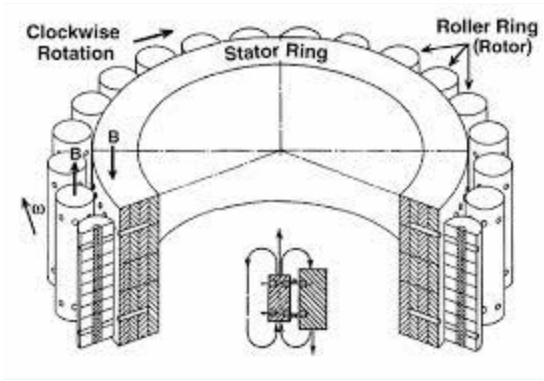

THE WATER MOLECULE
I NEED MORE ELECTRONS!!!
GIMME MORE!
PLEASE
JUST A COUPLE!
OXYGEN IS HIGHLY ELECTRONEGATIVE
WIRDOU.COM


Electronegativity Dependence of Chemical Shift
Dependence of the Chemical Shift of CH_3X on the Element X
Compound CH_3X CH_3F CH_3OH CH_3Cl CH_3Br CH_3I CH_4 $(CH_3)_4Si$
Element X F O Cl Br I H Si
Electronegativity of X 4.0 3.5 3.1 2.8 2.5 2.1 1.8
Chemical shift δ 4.26 3.40 3.05 2.68 2.16 0.23 0
most deshielded
TMS
deshielding increases with the electronegativity of atom X

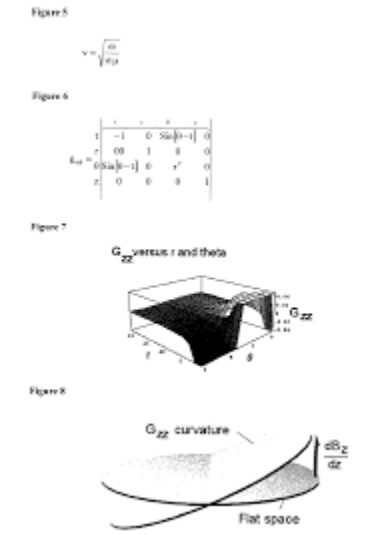


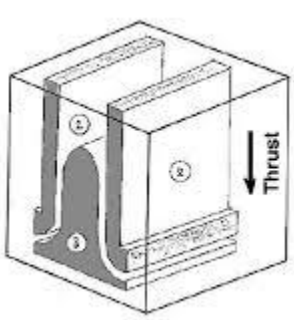


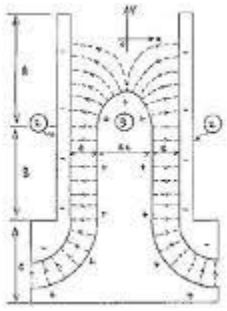

ANTI GRAVITY MAGNETIC
LEVITATION


Clockwise Rotation
Stator Ring
Roller Ring (Rotor)
B
B
ω

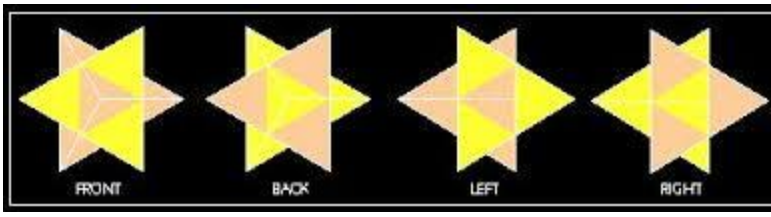


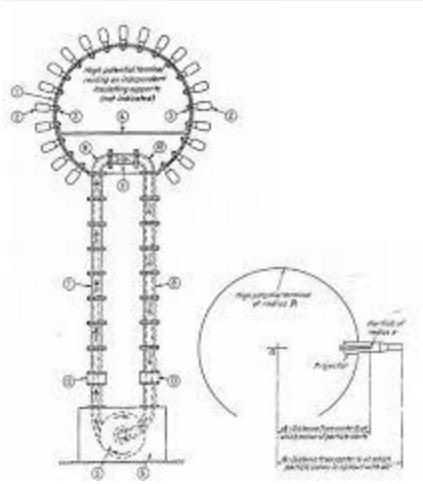

Figure 5
Figure 6
Figure 7
G_{zz} versus r and theta
G_{zz}
Figure 8
G_{zz} curvature
$\frac{dB_z}{dz}$
Flat space

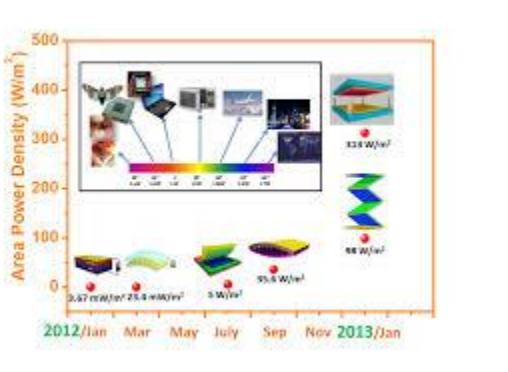

Thrust



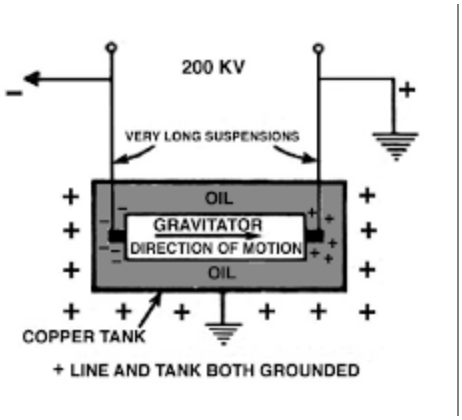

Yugoslav Earthquake, Followed by Cold Explosion
Apr. 15 1979
Magnitude 7.2 on Richter scale
Epicenter 33 km. deep
More than 100 aftershocks
At Kamenari:
Adriatic sea mushroomed up
Like atomic bomb explosion
Signature of a cold explosion
Similar to Apr. 1984 test off coast of Japan, near Kurils (see inset graphics)
Note that April is a significant test month for the Communists (preparing official reports for May Day?)
OFF JAPAN, NEAR KURILS
1985 COLD EXPLOSION SIMILAR TO THIS ONE

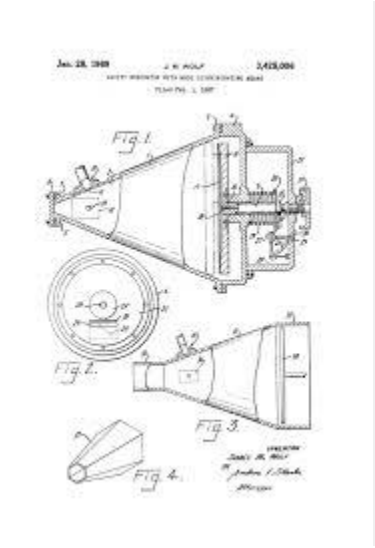

FRONT
BACK
LEFT
RIGHT

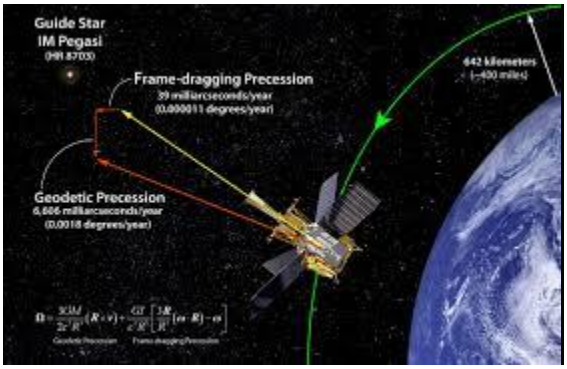


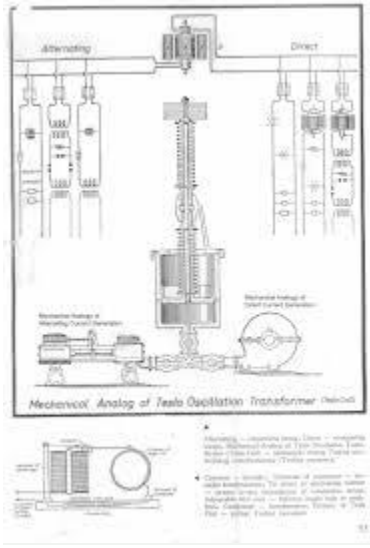

Area Power Density (W/m²)
500
400
300
200
100
0
2012/Jan
Mar
May
July
Sep
Nov
2013/Jan




200 KV
VERY LONG SUSPENSIONS
OIL
GRAVITATOR
DIRECTION OF MOTION
OIL
COPPER TANK
+ LINE AND TANK BOTH GROUNDED

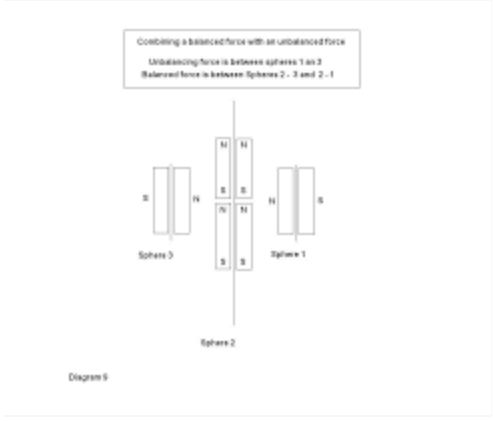

Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.

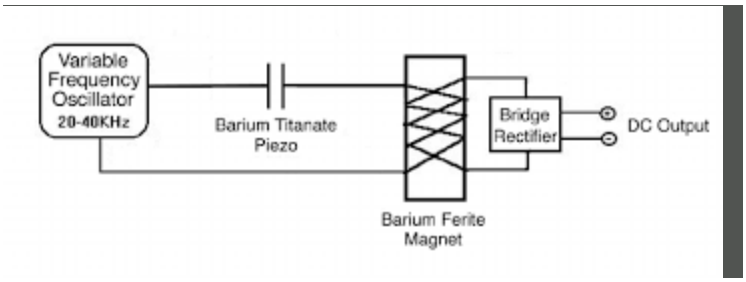

Guide Star
IM Pegasi
(HR 8703)
Frame-dragging Precession
39 milliarcseconds/year
(0.000011 degrees/year)
642 kilometers
(~400 miles)
Geodetic Precession
6,606 milliarcseconds/year
(0.0018 degrees/year)

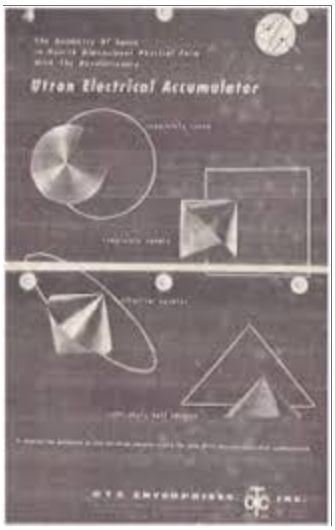

Alternating
Direct
Mechanical Analog of Tesla Oscillation Transformer

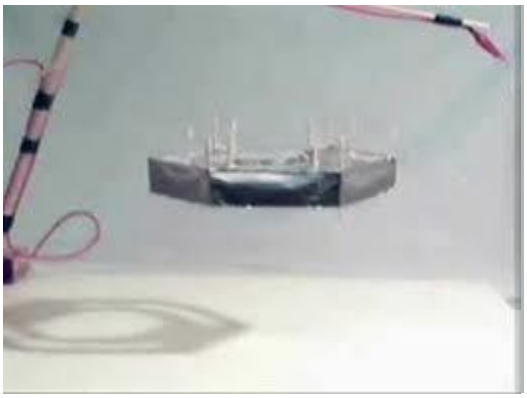

109 . 122
ozcott.com/HomeTronics




Combining a balanced force with an unbalanced force
Unbalancing force is between spheres 1 an 3
Balanced force is between Spheres 2 - 3 and 2 - 1
Sphere 3
Sphere 1
Sphere 2
Diagram 5









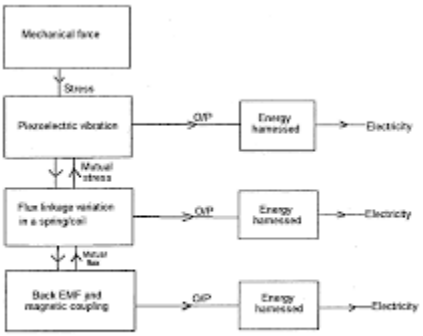
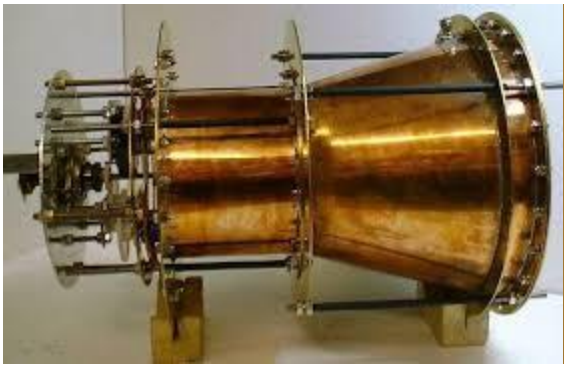
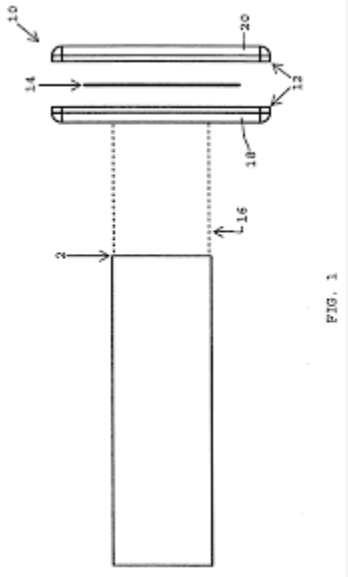
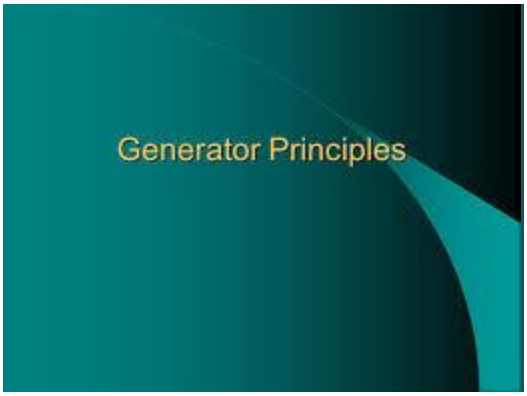


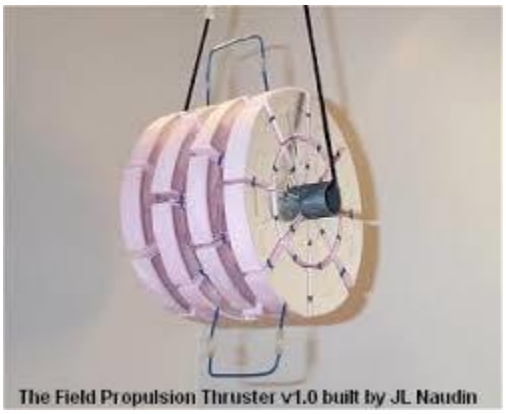
Fig-6: Energy harnessing flow in energy harvester

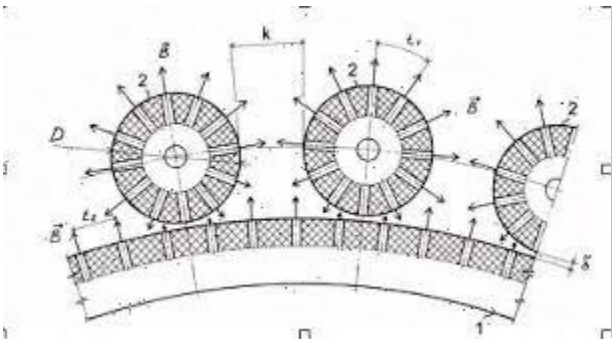


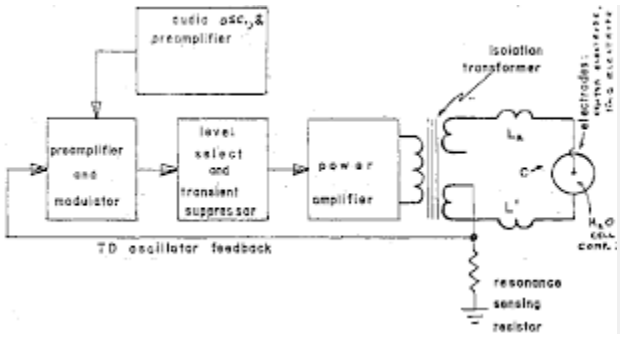



Generator Principles

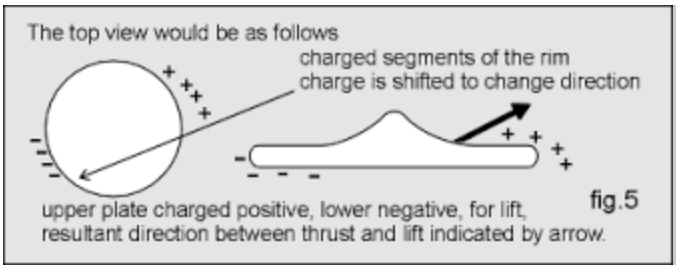

New Science•Physics•UFO Propulsion
BUILD YOUR OWN FLYING SAUCER!
Rho Sigma's classic book on Anti-Gravity & Free Energy is back in print! First published in 1977, this ground-breaking book delves into the international efforts at gravity control and discoid craft propulsion. Before the Quantum Field was the "Ether." In the Quantum Field or Ether Field of Physics, energy is all around us. Energy can theoretically be drawn from a Unified Field of Magnetism, Electricity and Gravity to propel a spacecraft through space. Rho Sigma explains how the technology already exists to control gravity and takes us through the world of Ether-Vortex-Turbines, T. Townsend Brown, Searl Discs, Electric Wind, German anti-gravity research, and more. Rho Sigma also delves into prophecies of coming earthchanges and how "Ether Technology" may help in this period of change. Former astronaut Capt. Edgar D. Mitchell, Ph. D. has written the forward to the book, "A Change of Conciousness." Don't miss this informative book on the "New Science" that is sweeping the world!
ELECTRICITY
ELECTRO MAGNETISM
ELECTRO GRAVITATION
MAGNETISM
GRAVITATION

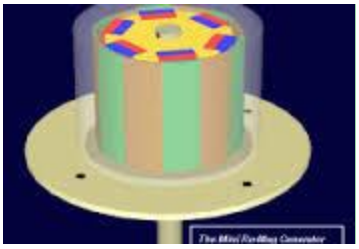

The Field Propulsion Thruster v1.0 built by JL Naudin


k
D

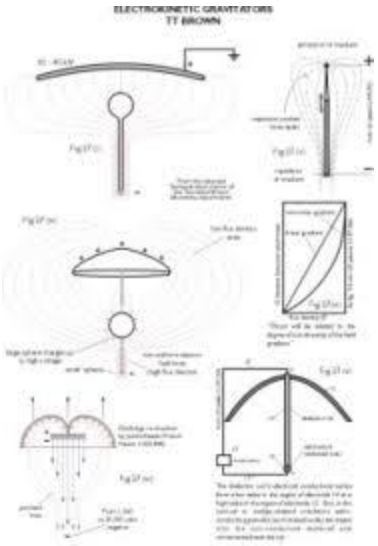

audio osc.,& preamplifier
isolation transformer
preamplifier and modulator
level select and transient suppressor
power amplifier
TD oscillator feedback
resonance sensing resistor

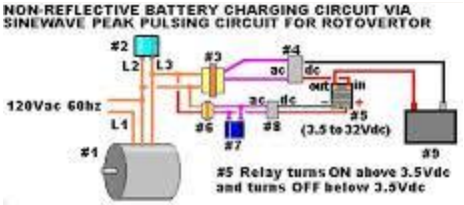



The top view would be as follows
charged segments of the rim
charge is shifted to change direction
upper plate charged positive, lower negative, for lift,
resultant direction between thrust and lift indicated by arrow.
fig.5









NON-REFLECTIVE BATTERY CHARGING CIRCUIT VIA SINEWAVE PEAK PULSING CIRCUIT FOR ROTOVERTOR

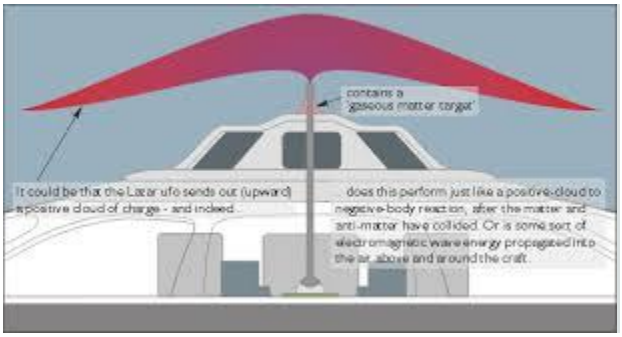
#1: 3ph AC 3450rpm rotoverter motor (start cap not shown)
#2: 9uf run-cap
#3: 120VAC/14VAC power-transformer
#4: 25A/50V full wave bridge rectifier
#5: 40amp/100Vdc mosfet solid state relay
#6: bug-zapper trigger-transformer (120VAC/1.5VAC)
#7: 10uf AC capacitor (brings AC voltage up to 3.8VAC)
#8: 2A/100V full wave bridge rectifier (DC voltage at 3.6VDC)
#9: 12V charge battery

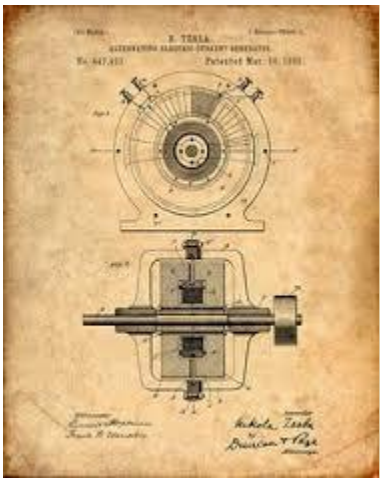
Charge-pulse to battery only occurs during peak of AC sinewave feeding AC motor
DC "pulse peaks" from FWBR #8 controls relay #5

konchead 2/26/2009









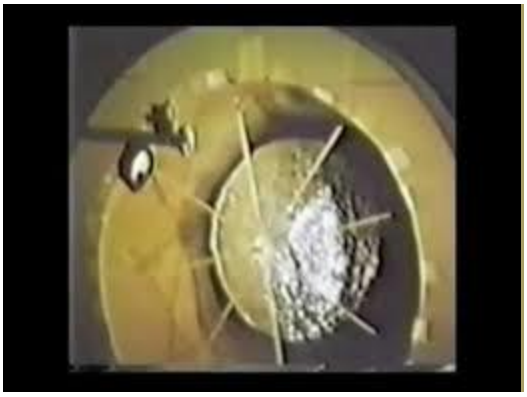
The Electro-Gravity Device of Townsend Brown

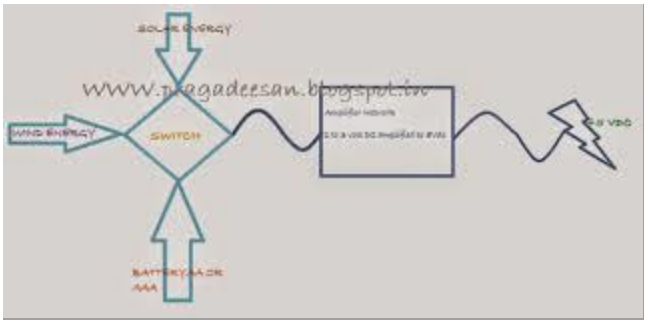
File:	24-185
Subject:	SPECIAL INQUIRY

A comprehensive evaluation by the office of Naval Research, with accompanying documents.
15 September 1952

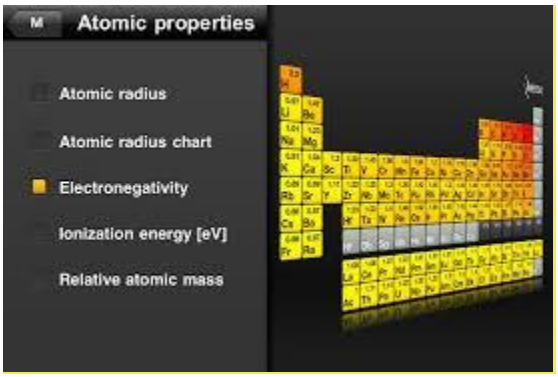


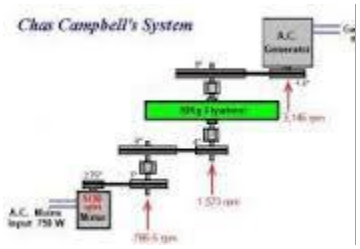
Integrity Research Institute

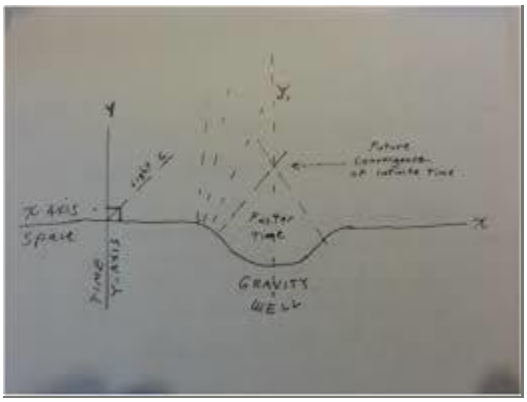












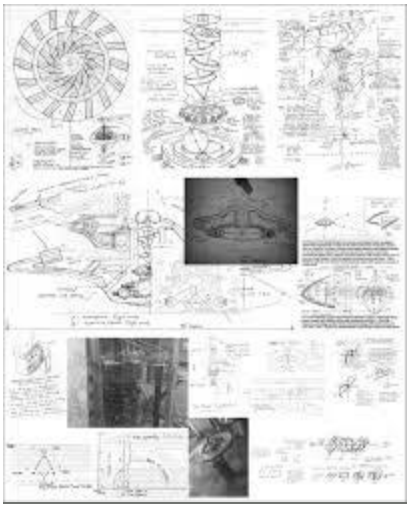


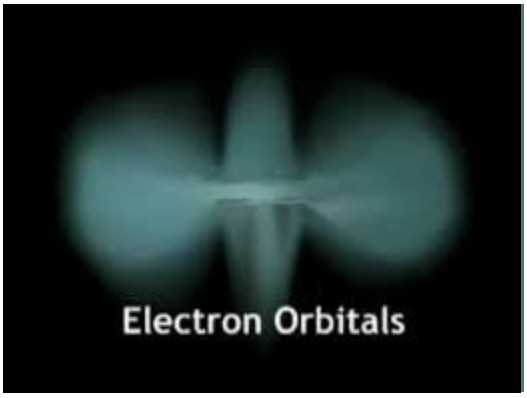


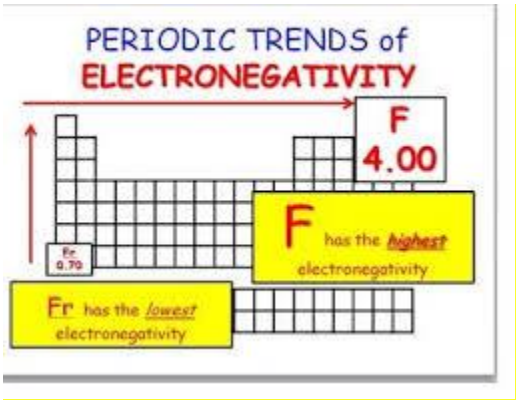


$$z_{i,j} := \left| \begin{array}{l} z_{i,j} \leftarrow 0 \\ N \leftarrow 0 \\ \text{while } N < \text{ittr} \\ \quad \left| \begin{array}{l} N \leftarrow N + 1 \\ \text{continue if } |z_{i,j}| > 2 \\ z_{i,j} \leftarrow (z_{i,j})^2 + C_{i,j} \\ N \leftarrow 0 \text{ if } |z_{i,j}| > 2 \end{array} \right. \\ z_{i,j} \end{array} \right.$$


BUILD YOUR OWN MAGNET POWER SYSTEM
MAGNET 4POWER



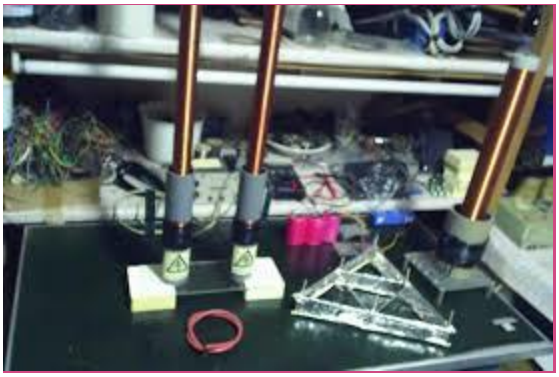

Electron Orbitals

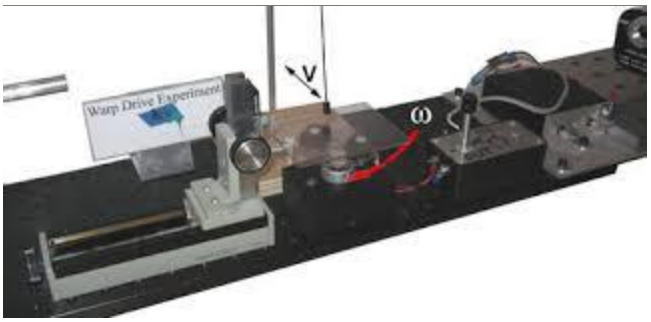

PERIODIC TRENDS of
ELECTRONEGATIVITY
F
4.00
F has the highest electronegativity
Fr
0.70
Fr has the lowest electronegativity

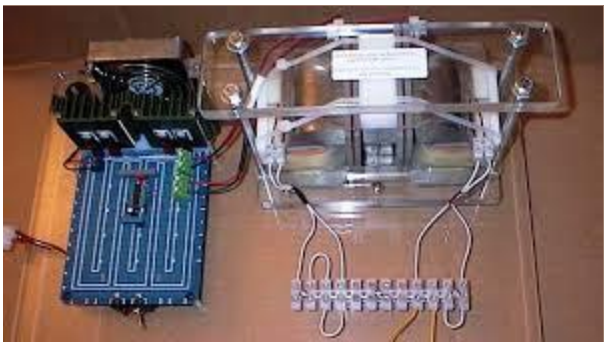


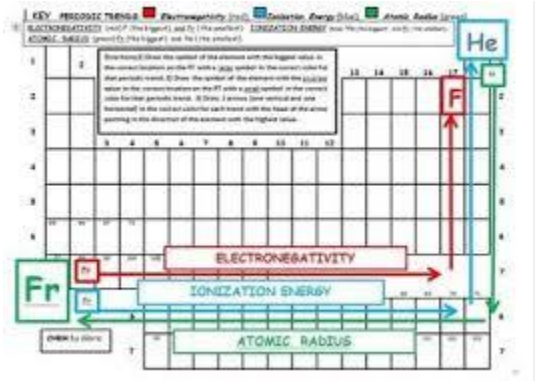



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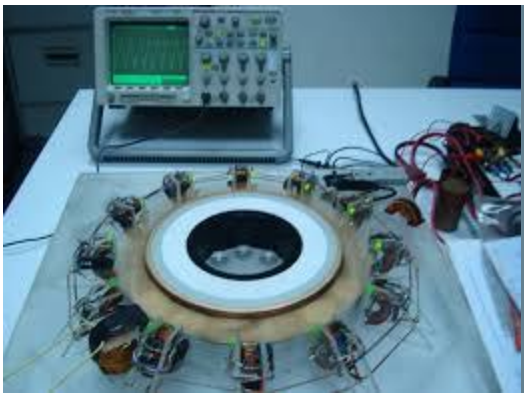


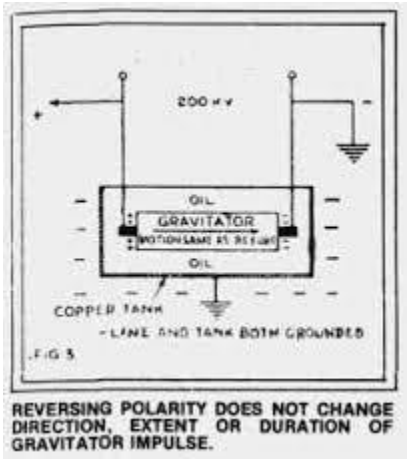




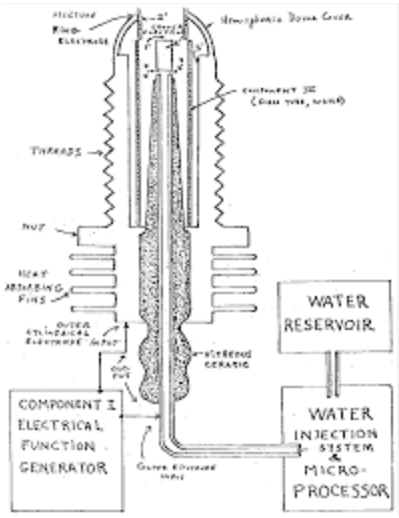








REVERSING POLARITY DOES NOT CHANGE DIRECTION, EXTENT OR DURATION OF GRAVITATOR IMPULSE.





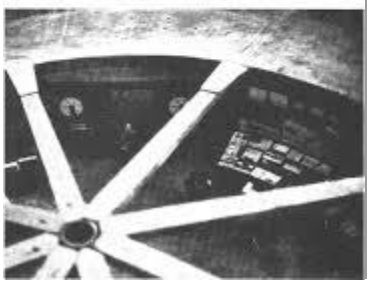
Nikola Tesla
Electric Oscillator



Egyptian
Ankh











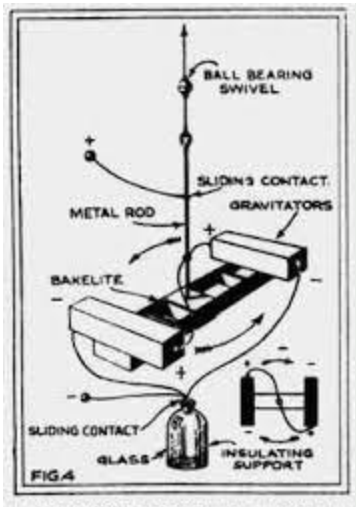




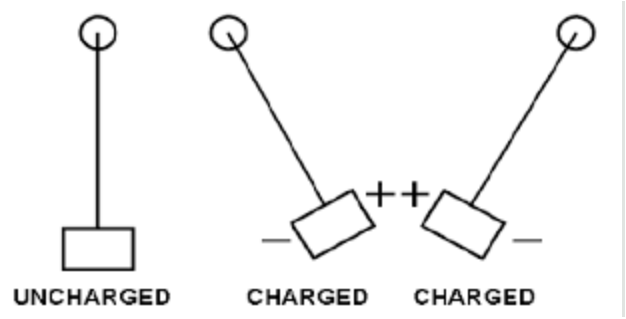


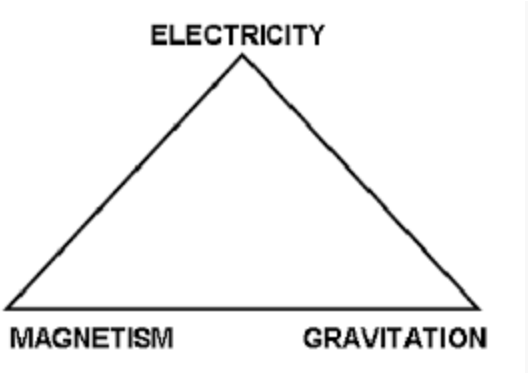






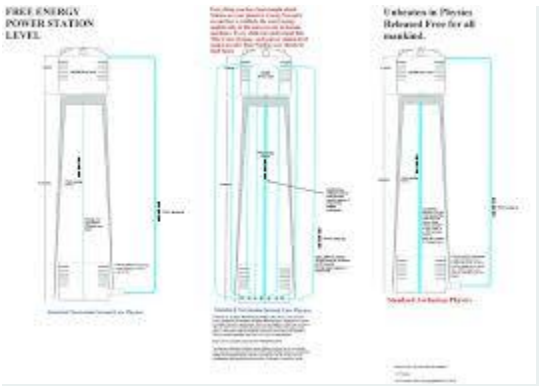
A GRAVITATOR ROTOR IS SIMPLY AN ASSEMBLY OF UNITS SO MADE THAT ROTATION RESULTS UNTIL THE IMPULSE IS EXHAUSTED.

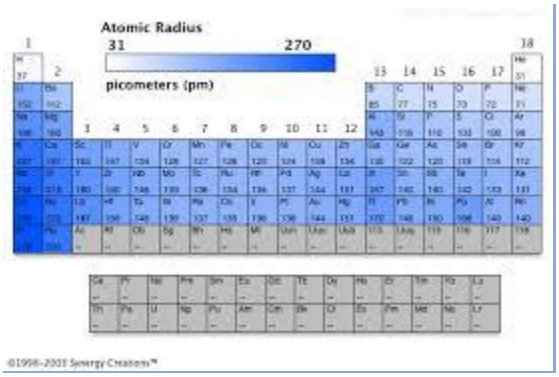

UNCHARGED
CHARGED
CHARGED

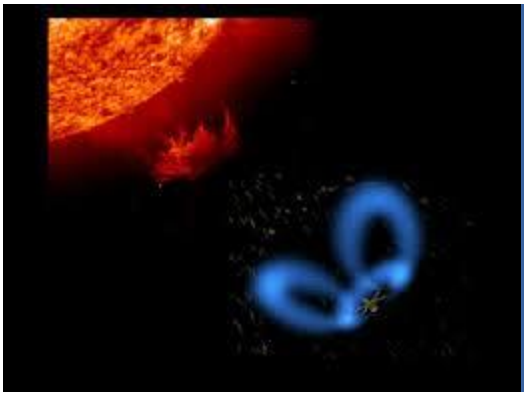

ELECTRICITY
MAGNETISM
GRAVITATION

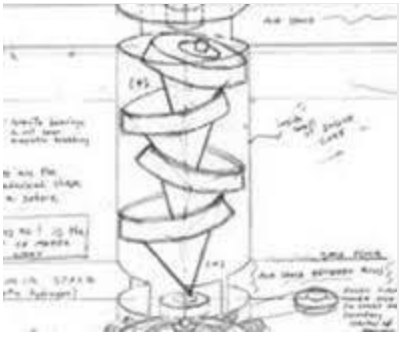

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wmec
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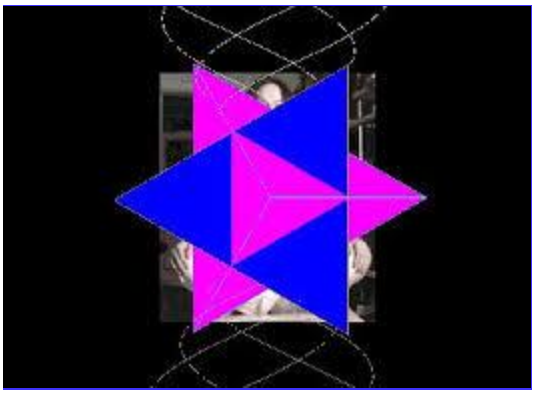

Ancient
CODE
...en Español.


FREE ENERGY
POWER STATION
LEVEL

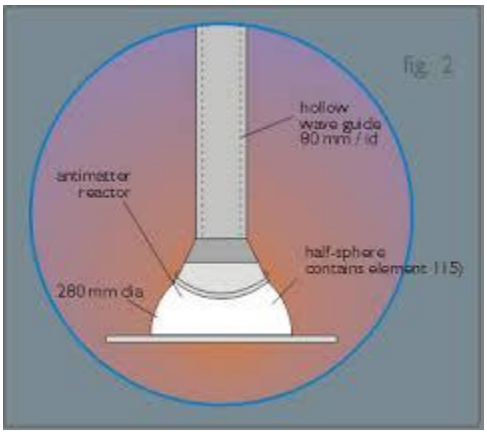

Atomic Radius
31
270
picometers (pm)
©1998-2003 Synergy Creations™

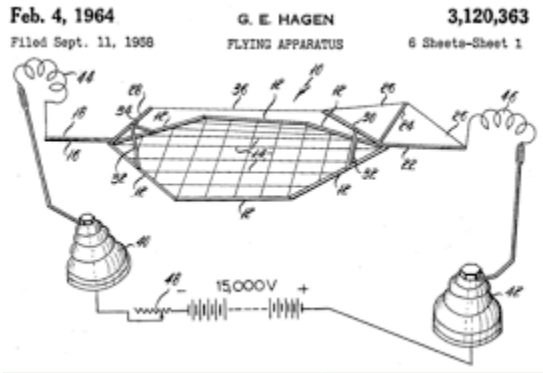


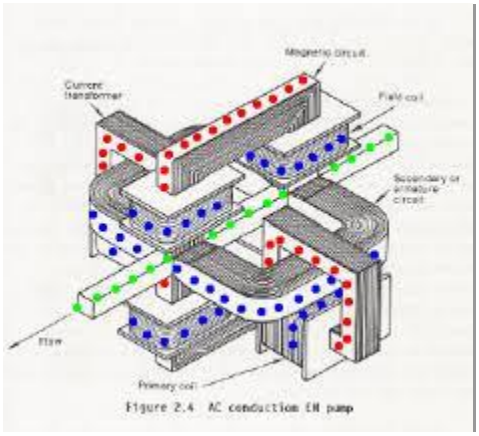


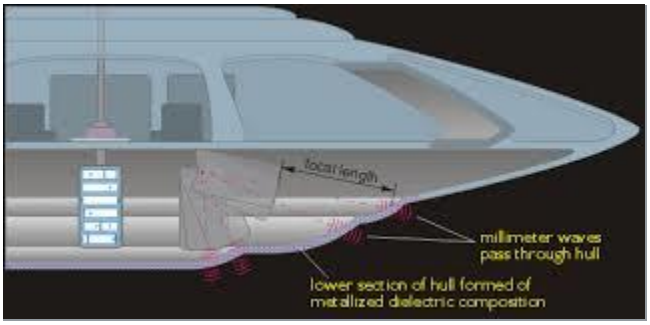


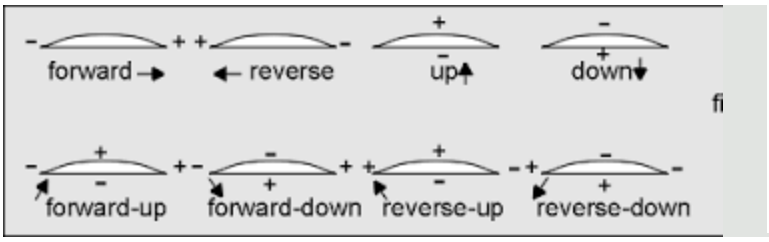

Radionuclide Generators
Lab 8

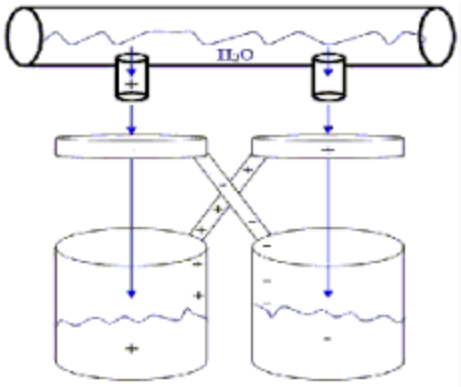

fig. 2
hollow wave guide 80 mm / id
antimatter reactor
half-sphere contains element 115)
280 mm dia


Feb. 4, 1964
G. E. HAGEN
FLYING APPARATUS
3,120,363
Filed Sept. 11, 1958
6 Sheets-Sheet 1
15,000V

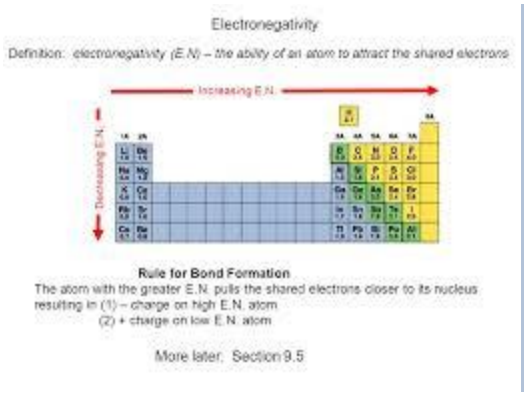

Magnetic circuit
Current transformer
Field coil
Secondary or armature circuit
flow
Primary coil
Figure 2.4 AC conduction EM pump

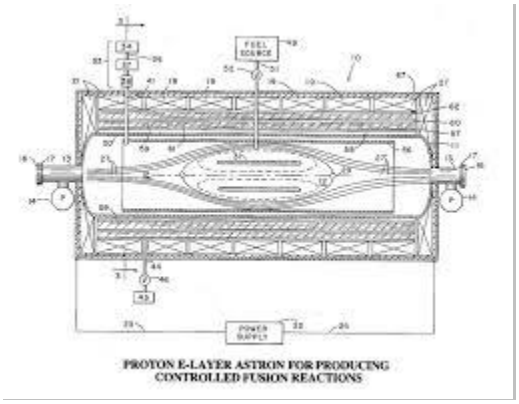

focal length
millimeter waves pass through hull
lower section of hull formed of metallized dielectric composition

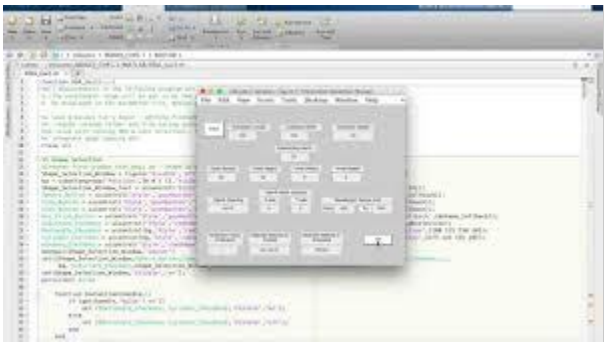

forward
reverse
up
down
forward-up
forward-down
reverse-up
reverse-down

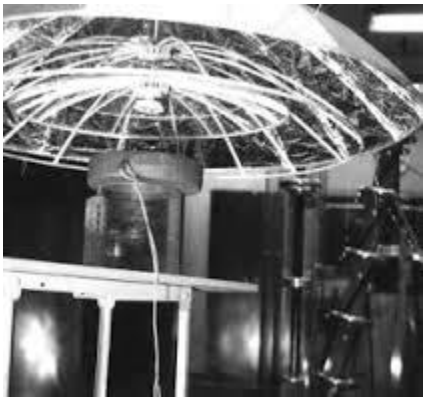

H2O




Electronegativity
Definition: electronegativity (E.N) – the ability of an atom to attract the shared electrons
Increasing E.N.
Decreasing E.N.
Rule for Bond Formation
The atom with the greater E.N. pulls the shared electrons closer to its nucleus
resulting in (1) – charge on high E.N. atom
(2) + charge on low E.N. atom
More later: Section 9.5


PROTON E-LAYER ASTRON FOR PRODUCING
CONTROLLED FUSION REACTIONS





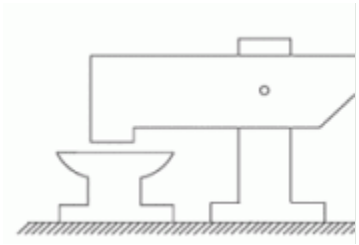


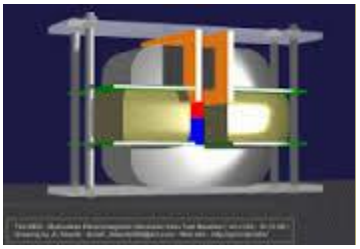

FULL VACUUM at
1.72x10^-6 Torr
C1
SP

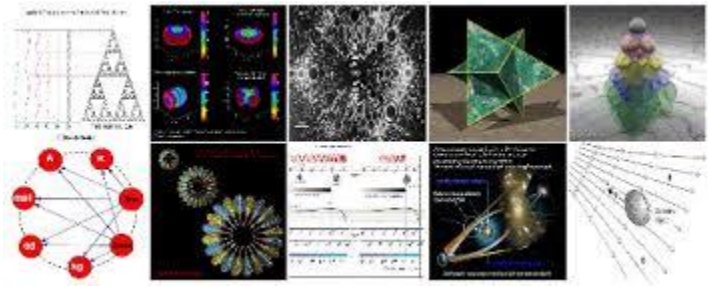






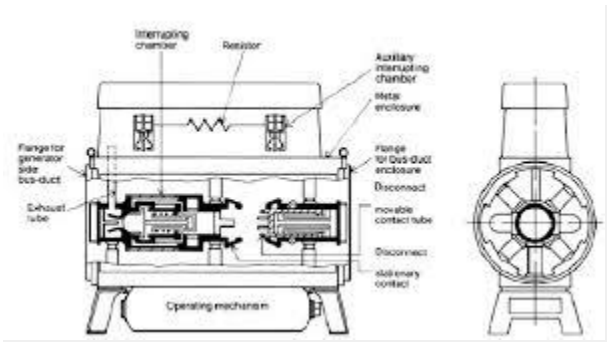














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Figure 4.6 Size - Time Diagram for Porous Plug 30 min Sample 54

Group 1	Group 2		Group 13	Group 14	Group 15	Group 16	Group 17
H 2.2							
Li 1.0	Be 1.6		B 2.0	C 2.6	N 3.0	O 3.4	F 4.0
Na 0.9	Mg 1.3		Al(III) 1.6	Si 1.9	P 2.2	S 2.6	Cl 3.2
K 0.8	Ca 1.0		Ga(III) 1.8	Ge(IV) 2.0	As(III) 2.2	Se 2.6	Br 3.0
Rb 0.8	Sr 0.9	(d-block elements)	In(III) 1.8	Sn(II) 1.8 Sn(IV) 2.0	Sb 2.1	Te 2.1	I 2.7
Cs 0.8	Ba 0.9		Tl(I) 1.6 Tl(III) 2.0	Pb(II) 1.9 Pb(IV) 2.3	Bi 2.0	Po 2.0	At 2.2

Radiation Safety concerns

- Receipt
 - Use gloves to prevent hand contamination
 - Inspect package for any damage
 - Monitor external exposures rates at 1m distance
 - Check for surface contamination
- Operation
 - Wear TLD badges and gloves
 - Use syringe shields while handling high activities
 - Perform wipe testing regularly
 - Work behind L-bench



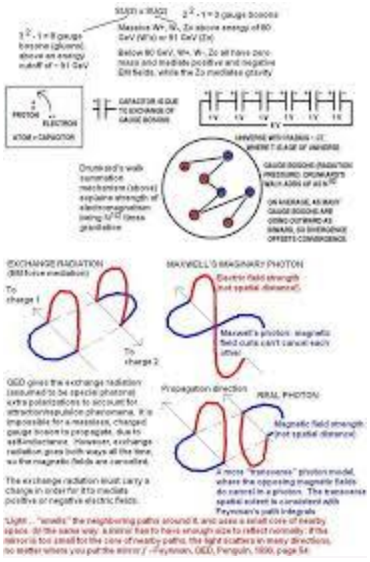
FACTORS INFLUENCING CHEMICAL SHIFT

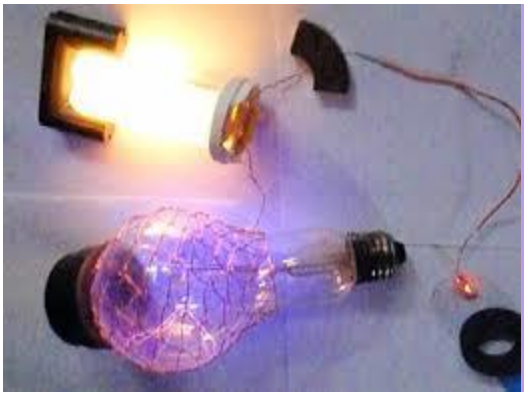
- Electronegativity Effects.
- Van der Waal's Deshielding.
- Hydrogen Bonding.
- Magnetic Anisotropy.
- Concentration, Tempareture and Solvent Effect.



The Original $^{99m}Tc/^{99}Mo$ Generator Without Shielding







SWEEP GENERATOR

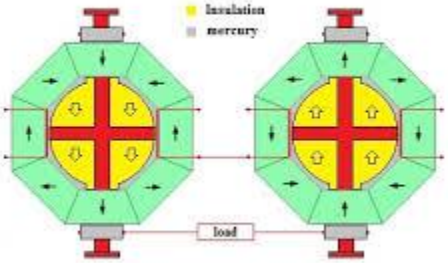
- **Resonance**
- This can achieved by two methods

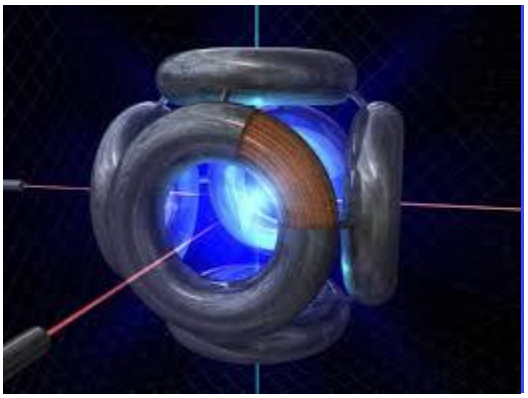
•Frequency sweep method

- If the applied magnetic field is kept constant, the precession frequency is fixed. In order to being about resonance, the frequency of the RF field should be changed so that it is becomes equal to the resonance frequency.
- Thus resonance condition is reached by the holding the applied magnetic field Ho constant and scanning the Rf transmitter through the frequencies, until the various nuclei come to resonance in turn as their precessional frequency matched by the scanning source.



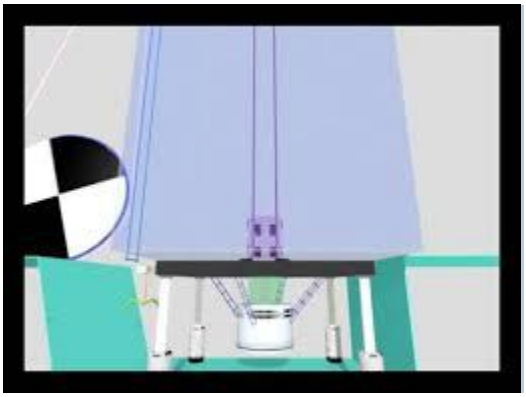
Spherical Halbach config. Twin Disk Homopolar Motor Generator

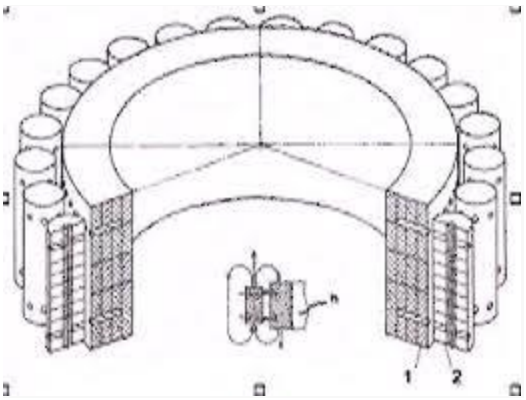




History

- 1951 - $^{132}Te/^{132}I$ – BNL
- 1960 – $^{113}Sn/^{113m}In$ – 393Kev-not suitable for imaging
- 1993 – $^{99}Mo/^{99m}Tc$, $^{81}Rb/^{81m}Kr$ and $^{82}Sr/^{82}Rb$ column generators became commercially available

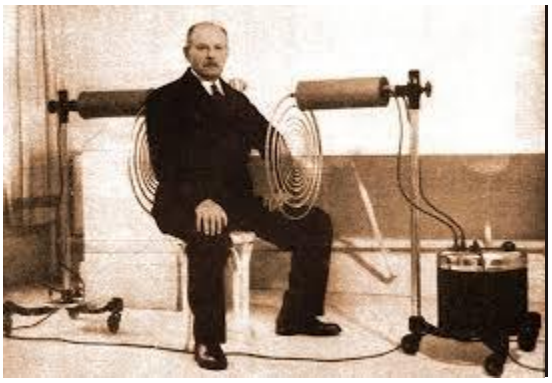


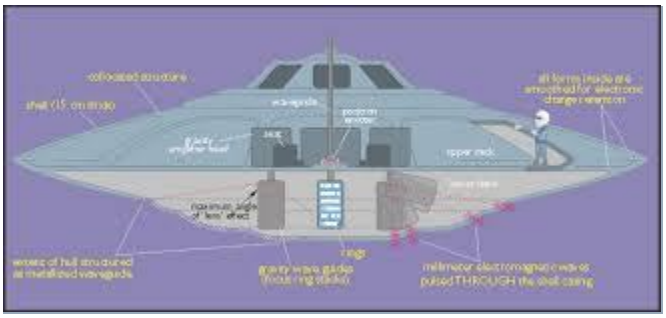


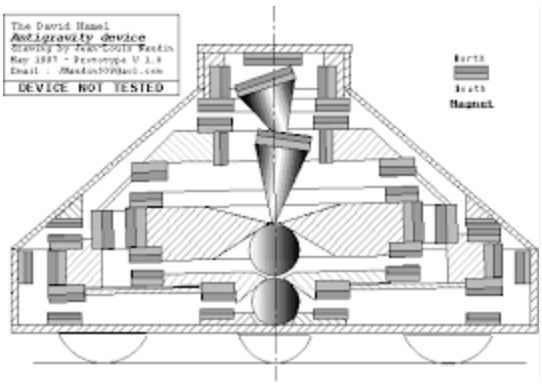


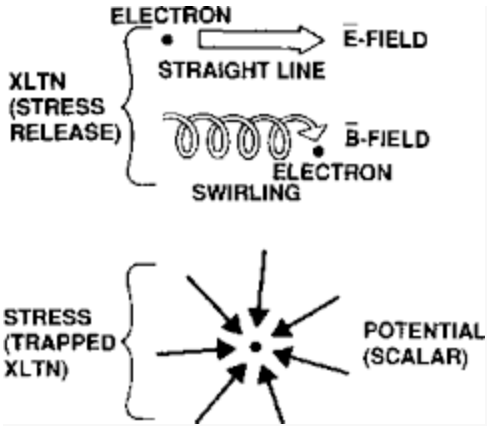
Engineer John Searl discovered that inertial mass could be canceled in such an approach to field propulsion, thus eliminating the presumed "light speed barrier"

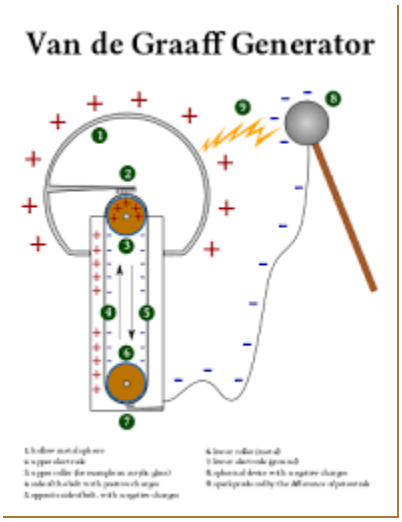








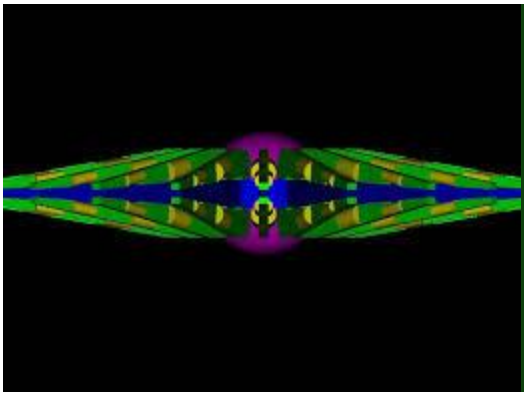




Trivial Pursuit Categories

1) Osmosis, diffusion and active transport
2) Breathing
3) Circulation
4) Homeostasis
5) The Environment
6) Food production







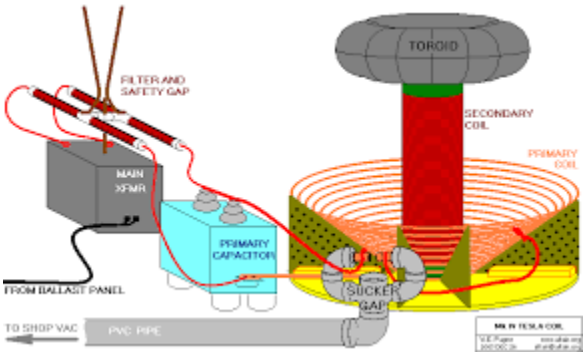
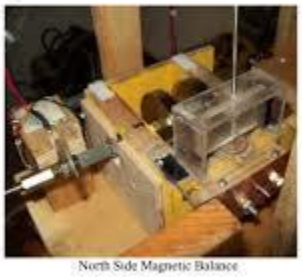


Fig. 3



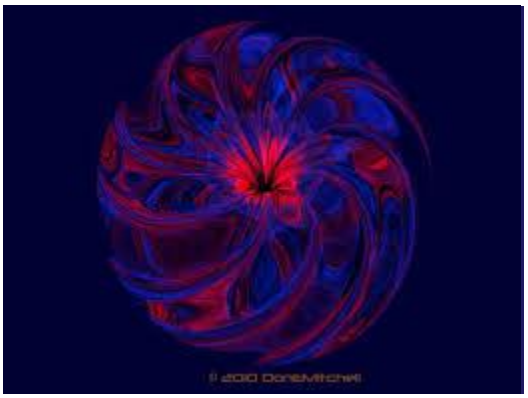
North Side Magnetic Balance

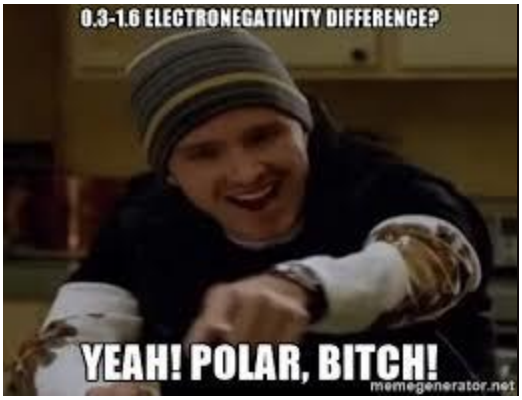
Fig. 4



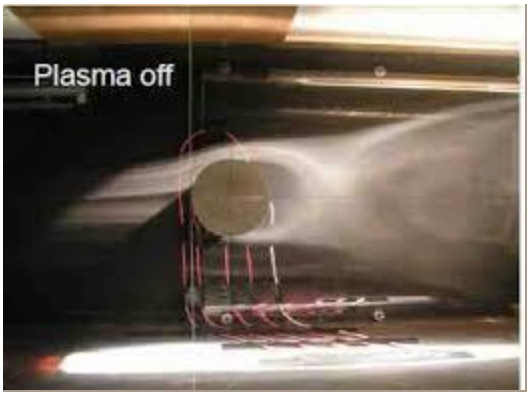
South Side Magnetic Balance



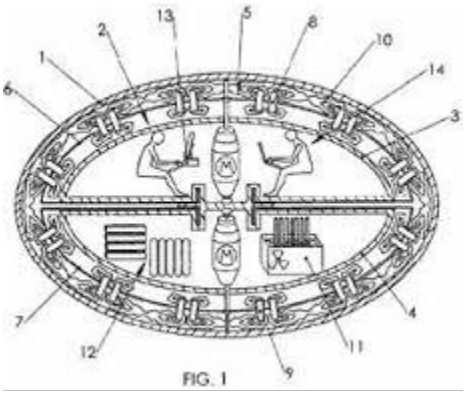










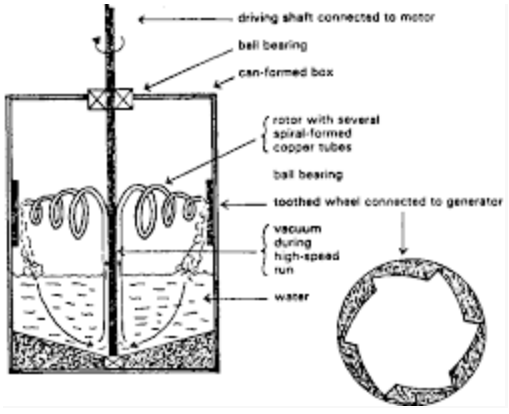


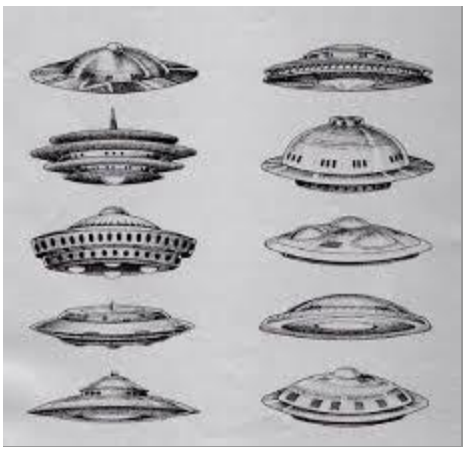
THE RADIOFREQUENCY GENERATOR

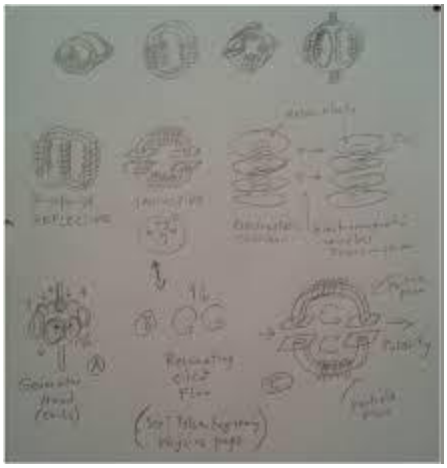
- Using an RF oscillator creates the radio frequency radiation, required to induce transition in the nuclei of the sample from the ground state to excited states.
- The source is highly stable crystal controlled oscillator. It is mounted at the right angles to the path of the field of wound around the sample tube perpendicular to the magnetic field to get maximum interaction with the sample. The oscillator irradiates the sample with RF radiation.
- Radio frequencies are generated by the electronic multiplication of natural frequency of a quartz crystal contained in a thermo stated block.
- In order to generate radiofrequency radiation, RFO is used. To achieve the maximum interaction of the RFradiation with the sample, the coil of oscillator is wound around the sample container.



$$g_{\mu\nu} = \begin{pmatrix} 1-\frac{\Lambda r^2}{3} & 0 & 0 & 0 \\ 0 & -\frac{1}{1-\frac{\Lambda r^2}{3}} & 0 & 0 \\ 0 & 0 & -r^2 & 0 \\ 0 & 0 & 0 & -r^2 \sin\theta \end{pmatrix},$$

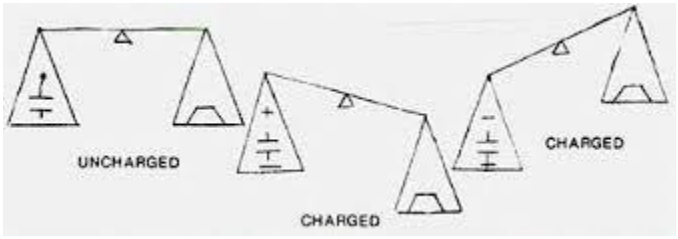


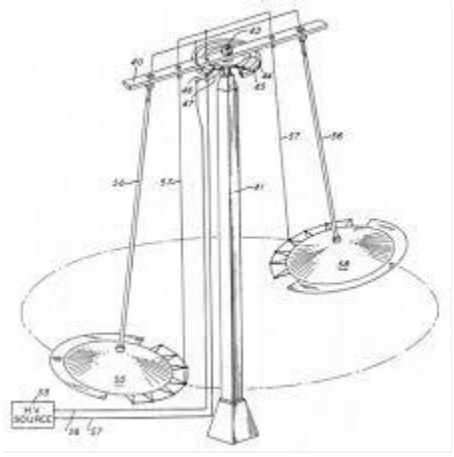


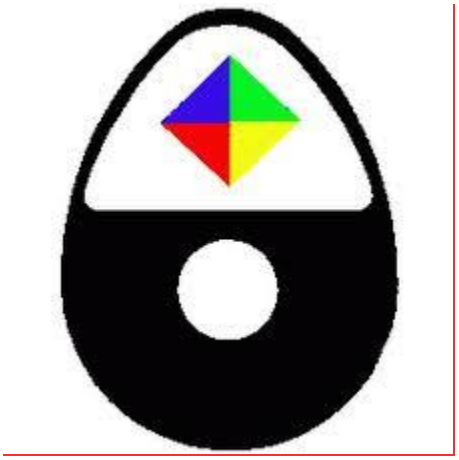


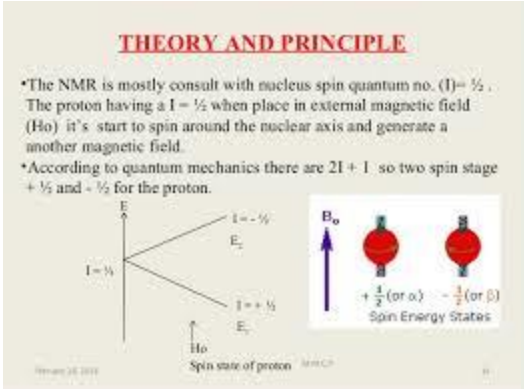


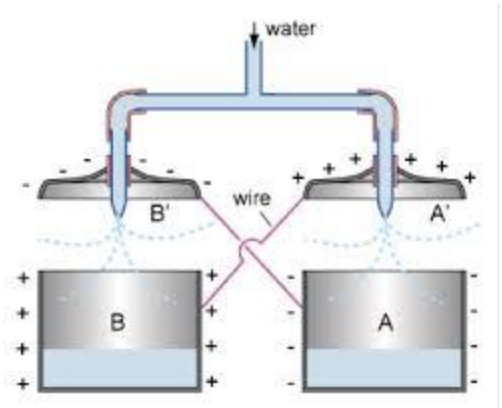

Amazing Magnet-Powered Motor


UNCHARGED
CHARGED
CHARGED


HV SOURCE

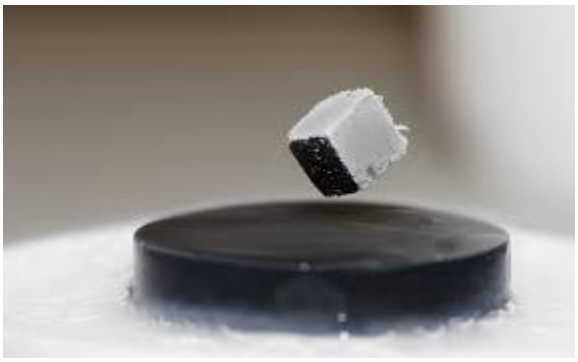


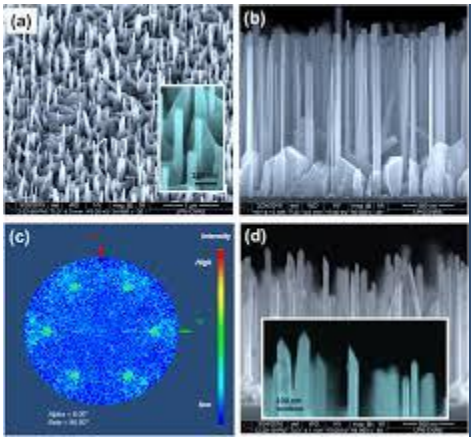

THEORY AND PRINCIPLE
•The NMR is mostly consult with nucleus spin quantum no. (I)= ½ . The proton having a I = ½ when place in external magnetic field (Ho) it's start to spin around the nuclear axis and generate a another magnetic field.
•According to quantum mechanics there are 2I + 1 so two spin stage + ½ and - ½ for the proton.
E
I = - ½
E2
I = ½
I = + ½
E1
Ho
Spin state of proton
Bo
+ ½ (or α)
- ½ (or β)
Spin Energy States

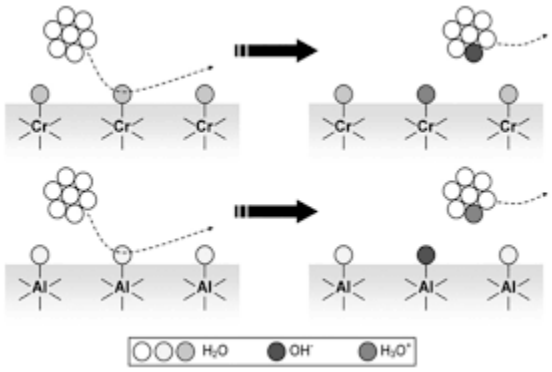

water
B'
wire
A'
B
A

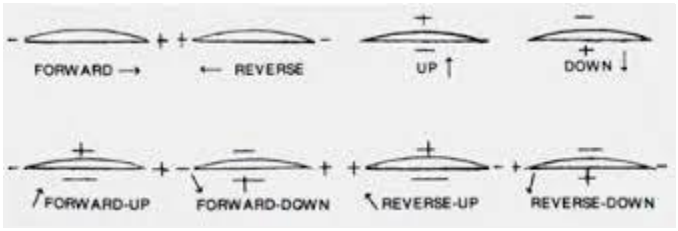

RGB Cycle



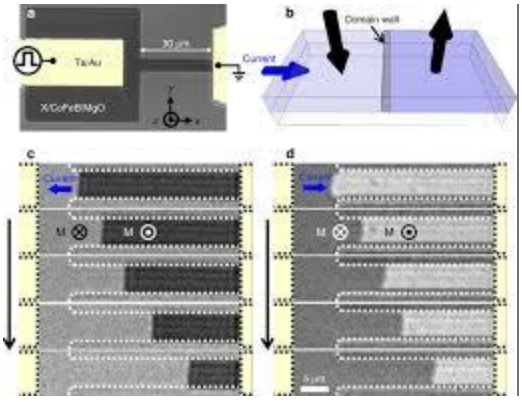



(a)
(b)
(c)
(d)


Cr
Cr
Cr
Cr
Cr
Cr
Al
Al
Al
Al
Al
Al
H₂O
OH⁻
H₃O⁺

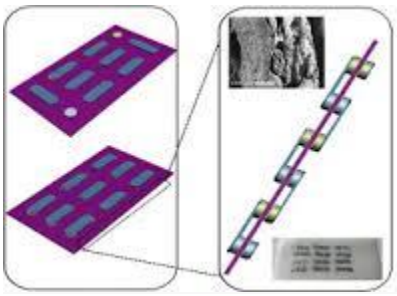

FORWARD →
← REVERSE
UP ↑
DOWN ↓
FORWARD-UP
FORWARD-DOWN
REVERSE-UP
REVERSE-DOWN


ON SCALAR WAVES
On Scalar Waves

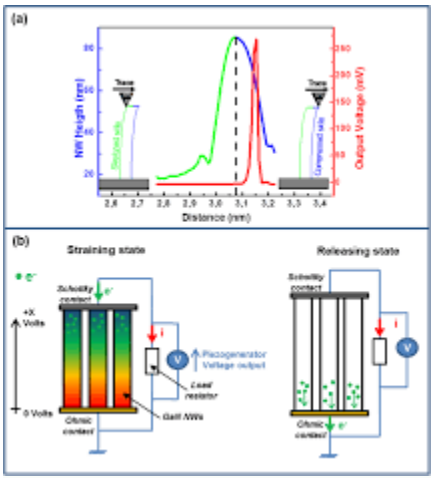

a
b
c
d
Ta/Au
X/CoFeB/MgO
Current
Domain wall

Q: What type of fermentation is used to make biogas – anaerobic or aerobic? A: Anaerobic Correct answer scores: £1000	Q: Give an example of something that can be fermented to make biogas. A: Any one of: plant material, animal waste, manure, sewage sludge and kitchen waste. Correct answer scores: £2000
Q: What must the waste contain in order for biogas to be produced? A: Carbohydrates. Correct answer scores: £5000	Q: What gas is biogas mainly made up of? A: Methane Correct answer scores: £3000
Q: What can biogas from small scale fermenters be used for? A: Fuel for cooking stoves and furnaces (heating) Correct answer scores: £2000	Q: What is the name of the solid particles and water left after the biogas is produced? A: Effluent Correct answer scores: £8000
Q: A mixture of faeces and what else are added to a simple generator to begin the fermentation process? A: Water Correct answer scores: £2000	Q: State a disadvantage of a simple farm-based generators. A: Any one from: stacking and monitoring the biogenerator daily, using land, set up costs, gas pressure difficult to maintain. Correct answer scores: £1000
Q: What is used as a feedstock for large scale biogas production? A: Either manure, solid industrial waste or organic waste. Correct answer scores: £3000	Q: Why is the fermentation mixture heated? A: Either: speeds up the reaction or microbes work better at warmer temperatures/35◦C Correct answer scores: £2000
Q: What is produced when methane from the biogenerator is burned? A: Carbon dioxide and water Correct answer scores: £3000	Q: What is the best climate for building a small-scale anaerobic fermenter? A: Warm Correct answer scores: £1000

$$\delta S = \int \left[\frac{1}{2\kappa} \left(\frac{\delta R}{\delta g^{\mu\nu}} + \frac{R}{\sqrt{-g}} \frac{\delta \sqrt{-g}}{\delta g^{\mu\nu}} \right) + \frac{1}{\sqrt{-g}} \frac{\delta \left(\sqrt{-g} \mathcal{L}_{\mathrm{M}} \right)}{\delta g^{\mu\nu}} \right] \cdot \delta g^{\mu\nu} \sqrt{-g} \mathrm{d}^4 x = 0$$





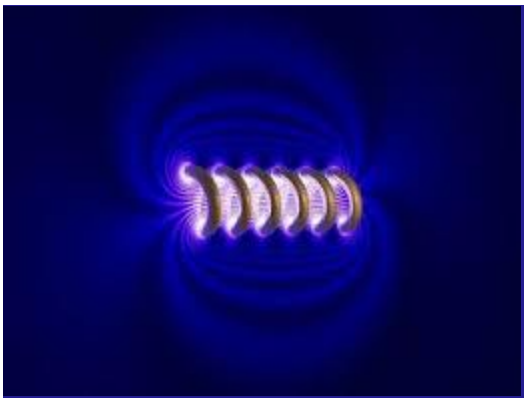


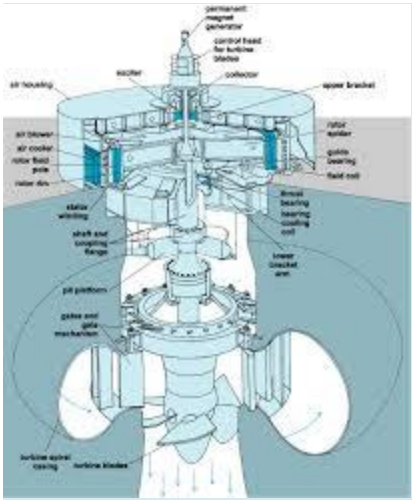








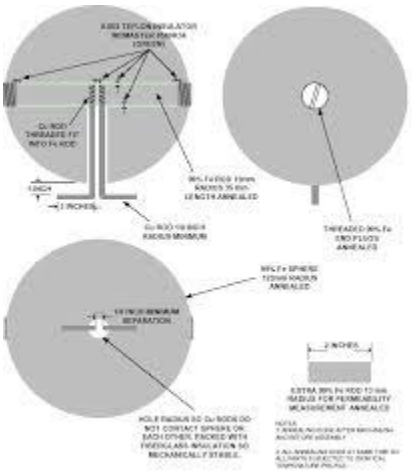





Hz
880
SINUS
VOLUME: 50%
ON
1
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100
1k
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same
5 Million Negative Ion
NEW ARRIVAL !
Formaldehyde Removing
Sterilize, Dusting
Mephitis Oxygenation
Oxygenation
AIR PURIFIER

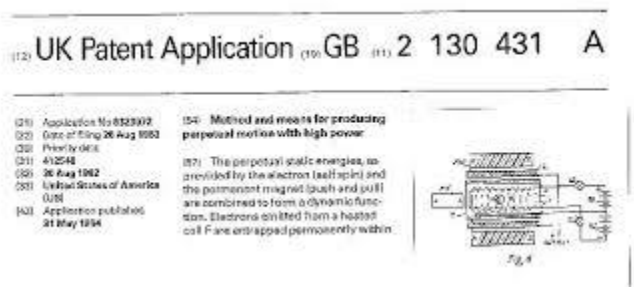








$$T_{\mu\nu} = -2\frac{1}{\sqrt{-g}}\frac{\delta\left(\sqrt{-g}\mathcal{L}_{\mathrm{M}}\right)}{\delta g^{\mu\nu}}$$
$$= -2\frac{\delta\mathcal{L}_{\mathrm{M}}}{\delta g^{\mu\nu}} + g_{\mu\nu}\mathcal{L}_{\mathrm{M}}.$$

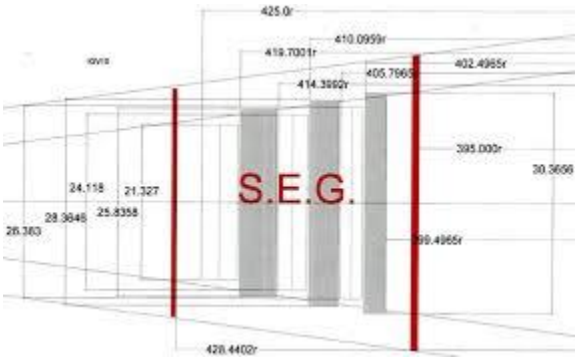


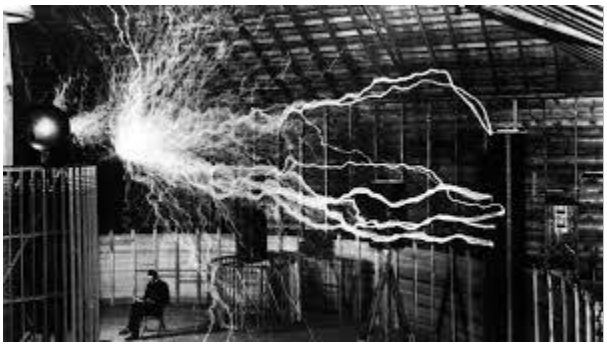
(12) UK Patent Application (19) GB (11) 2 130 431 A

(21) Application No 8323902
(22) Date of filing 26 Aug 1983
(30) Priority data
(31) 412548
(32) 26 Aug 1982
(33) United States of America (US)
(43) Application published 31 May 1984

(54) Method and means for producing perpetual motion with high power

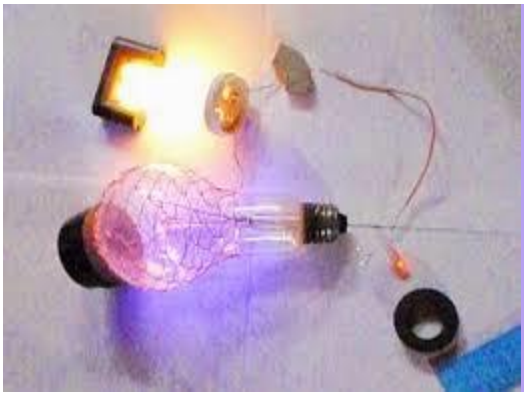
(57) The perpetual static energies, as provided by the electron (self spin) and the permanent magnet (push and pull) are combined to form a dynamic function. Electrons emitted from a heated coil F are entrapped permanently within

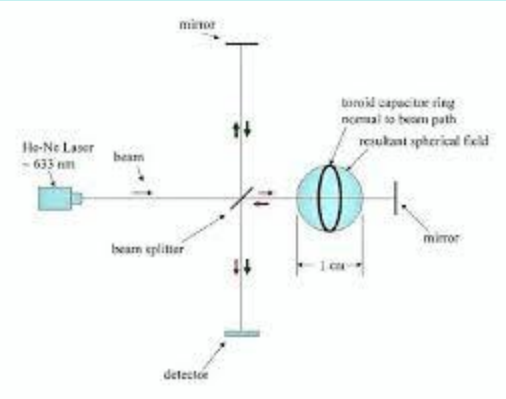




$$\frac{\delta R}{\delta g^{\mu\nu}} + \frac{R}{\sqrt{-g}}\frac{\delta\sqrt{-g}}{\delta g^{\mu\nu}}$$
$$= -2\kappa\frac{1}{\sqrt{-g}}\frac{\delta\left(\sqrt{-g}\mathcal{L}_{\mathrm{M}}\right)}{\delta g^{\mu\nu}},$$





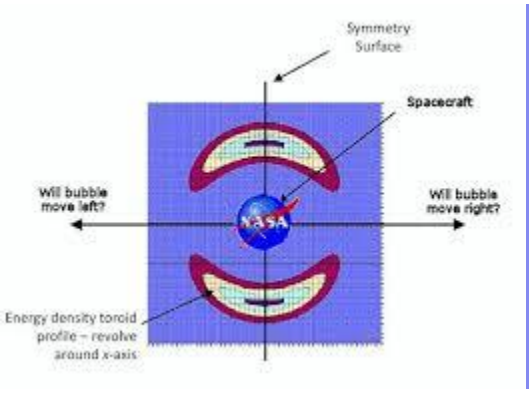


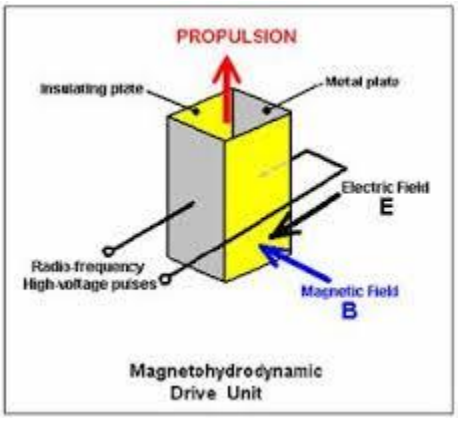
History: 1950's

- The first clinical implantation into a human of a fully implantable pacemaker was in 1958 at the Karolinska Institute in Solna, Sweden, using a pacemaker designed by Rune Elmqvist and surgeon Ake Senning.
- It connected to electrodes attached to the myocardium of the heart by thoracotomy. The device failed after three hours. A second device was then implanted which lasted for two days.
- The world's first implantable pacemaker patient, Arne Larsson, went on to receive 26 different pacemakers during his lifetime. He died in 2001, at the age of 86, outliving the inventor as well as the surgeon.

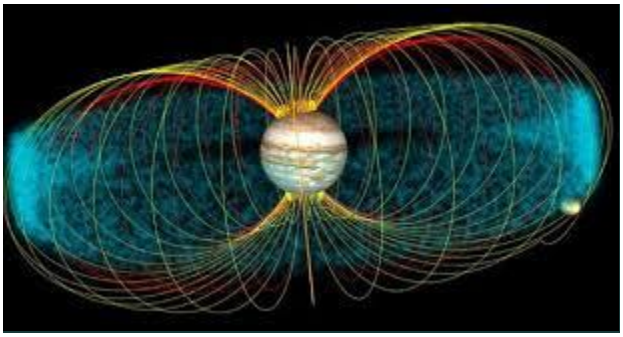








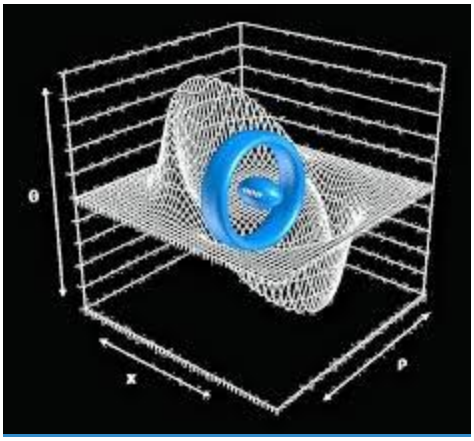






Rhythm Management Devices

Tatyana Travkina, MD and Rosario Garcia, MD



SU(2)xU(1) electroweak unification particles		*Weak isotopic charge*	*Weak hypercharge*	*Electric charge*
Quark doublet	u_L	+1/2	+1/3	+2/3
	d_L	-1/2	+1/3	-1/3
Quark singlets	u_R	0	+4/3	+2/3
	d_R	0	+2/3	-1/3
Lepton doublet	$(\nu_e)_L$	+1/2	-1	0
	e_L	-1/2	-1	-1
Lepton singlet	e_R	0	-2	-1
Boson triplet	W_+	+1	0	+1
	W_0/Z_0	0	0	0
	W_-	-1	0	-1
Boson singlet	B	0	0	0
Speculative Higgs boson doublet	φ_+	+1/2	+1	+1
	φ_0	-1/2	+1	0

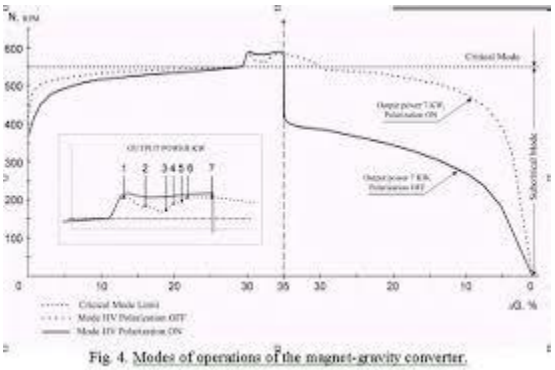


Fig. 4. Modes of operations of the magnet-gravity converter.



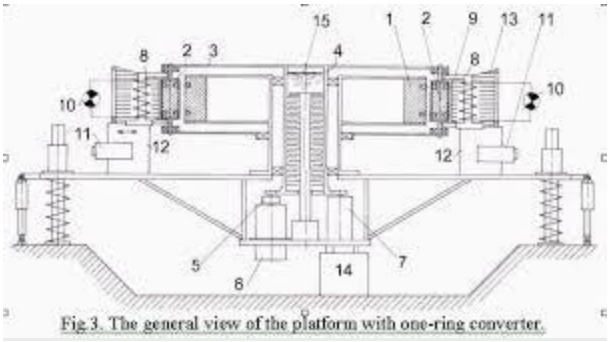
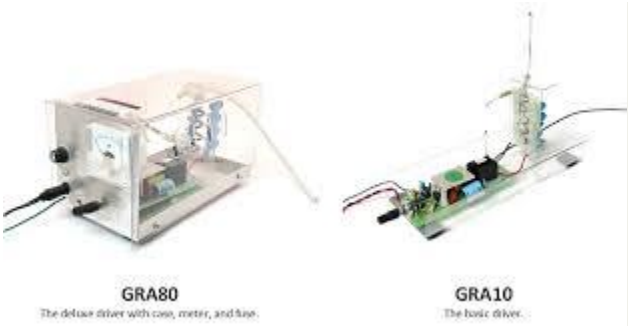
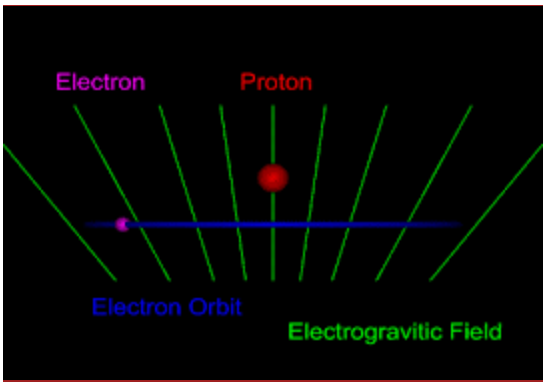
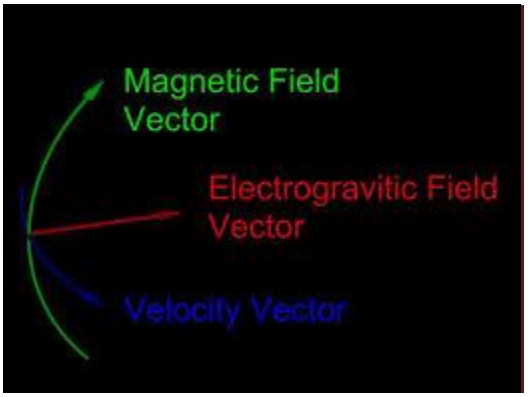


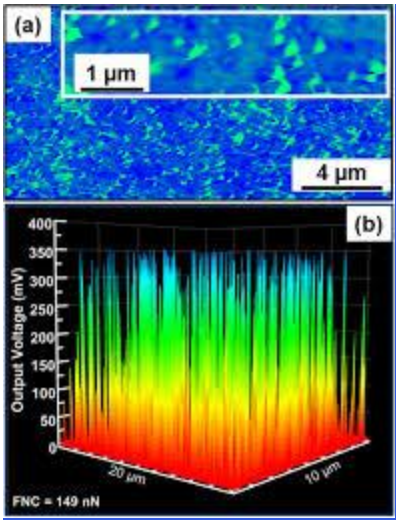
Fig.3. The general view of the platform with one-ring converter.









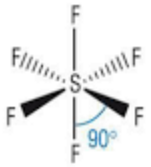


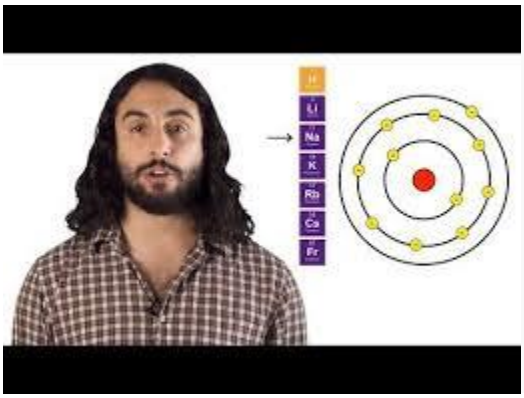


Starter

Use the Molymod kits to build 3D models of each of the following. What is the name for each shape you produce?

1) H_2S
2) CH_4
3) BF_3
4) CO_2



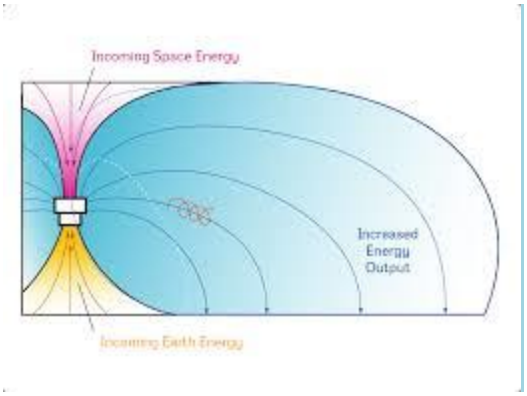






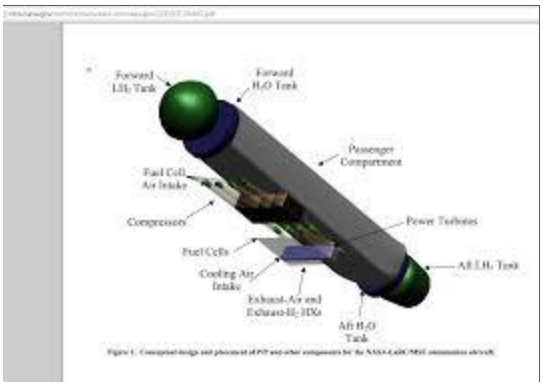


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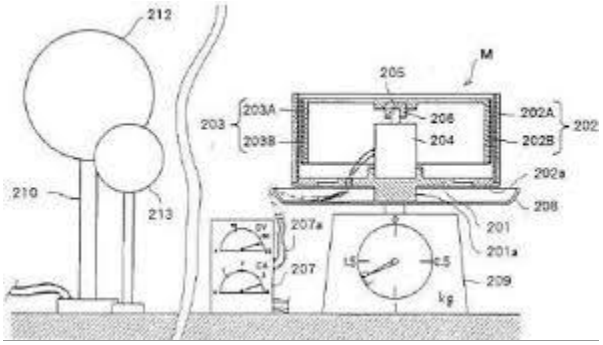


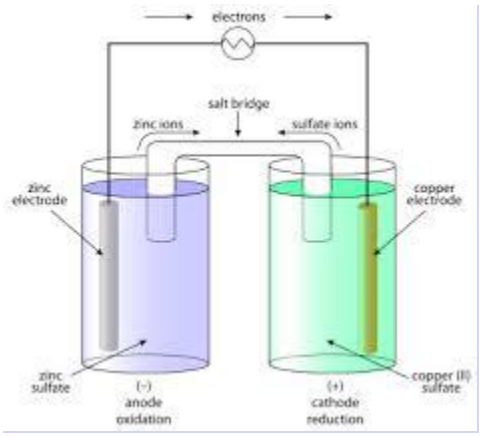


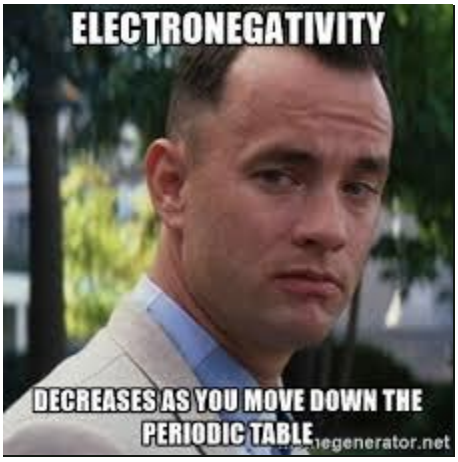
$$\mathcal{L}_{\mathrm{M}} = \mathcal{L}_{\rho} + \mathcal{L}_{em} = -\rho c^2 - \frac{\alpha_g c^2}{4\mu_0} F_{\mu\nu} F^{\mu\nu},$$

$$T_{\mu\nu} = g_{\mu\nu} \mathcal{L}_{\mathrm{M}},$$

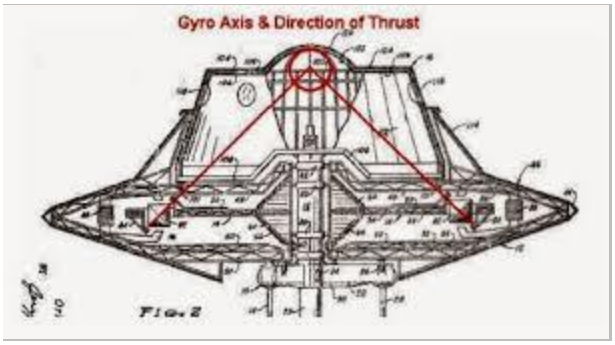
$$T_{\mu\nu} = -g_{\mu\nu} \rho c^2 - g_{\mu\nu} \frac{\alpha_g c^2}{2\mu_0} \left(B^2 - \frac{E^2}{c^2} \right).$$







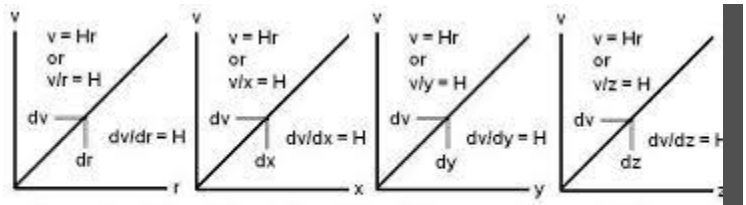




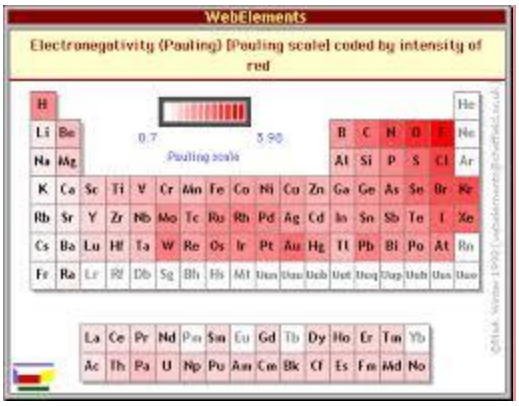


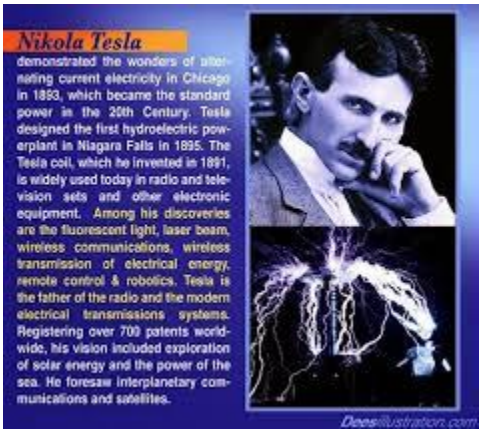


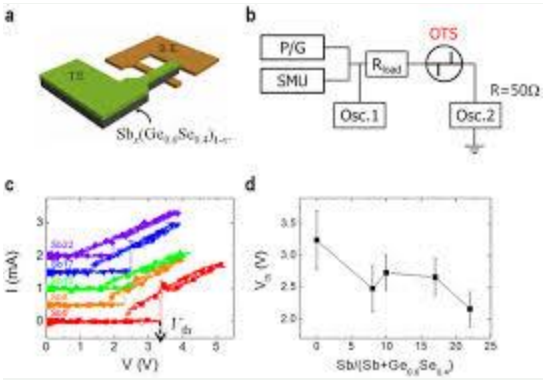


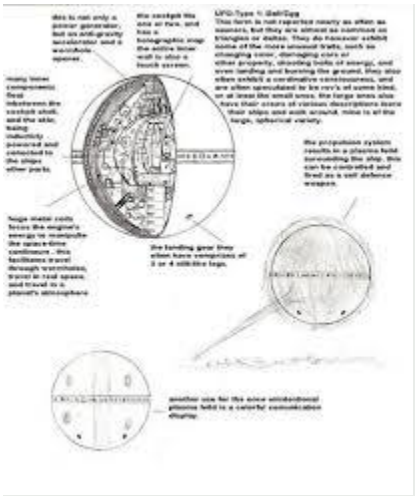


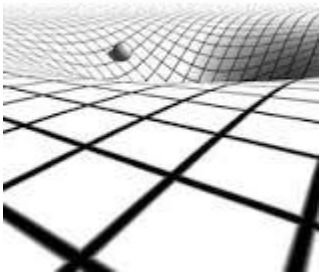
Hence, H = dv/dr = dv/dx = dv/dy = dv/dz. All the numerators equal dv, hence all the denominators must equal dr: in other words, dr = dx = dy = dz
This property is not general spherical geometry; it's for the isotropy of v = Hr

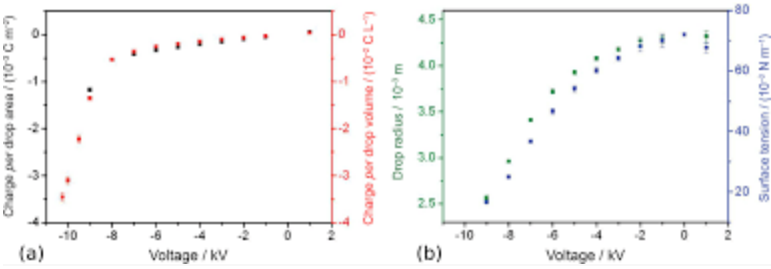




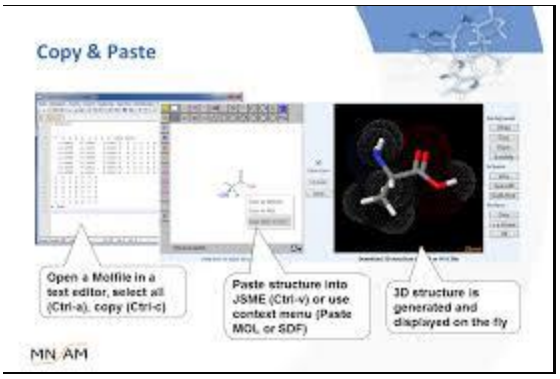


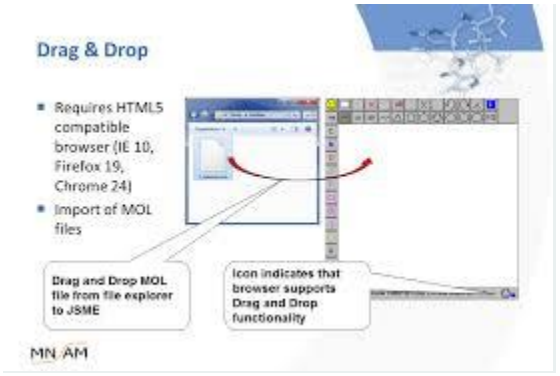






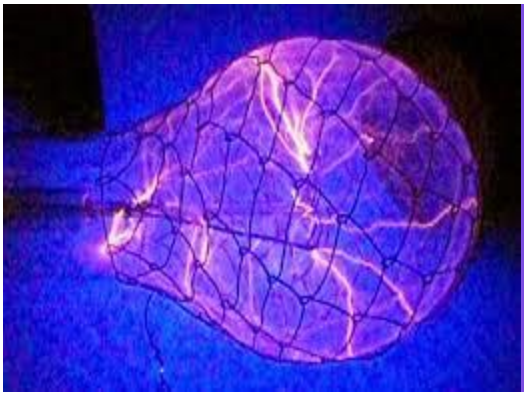



Copy & Paste
Open a Molfile in a text editor, select all (Ctrl-a), copy (Ctrl-c)
Paste structure into JSME (Ctrl-v) or use context menu (Paste MOL or SDF)
3D structure is generated and displayed on the fly
MN AM


Drag & Drop
Requires HTML5 compatible browser (IE 10, Firefox 19, Chrome 24)
Import of MOL files
Drag and Drop MOL file from file explorer to JSME
Icon indicates that browser supports Drag and Drop functionality
MN AM


Thank you for following this user guide!
MN AM

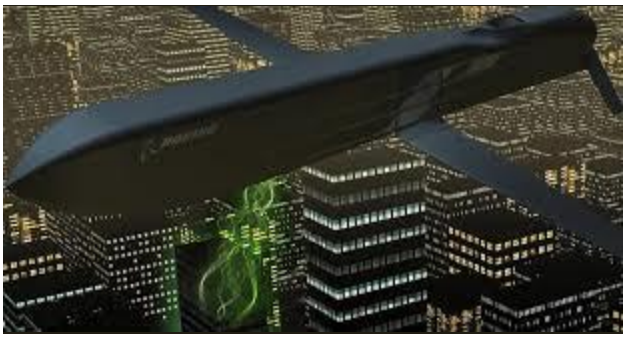

Energy Freedom Video Presents
DVD
John Hutchison's Un-Cut Lab Footage
This is some of the actual footage that made John Hutchison famous. Very rare and virtually unobtainable footage.
The actual Experiments are rather boring - staring at the same objects in anticipation of them moving. But some objects actual do move and try to levitate, but for a die hard Anti-Gravity buff this is great stuff!
We can see the many antique devices that Hutchison uses - old gauges, generators, Tesla coils, all of which look like they are 100 years old - and they are. Hutchison explains that "you cannot reproduce Nicola Tesla's experiments using modern equipment. You must used the same equipment that he did"
www.NotTaughtInSchools.com

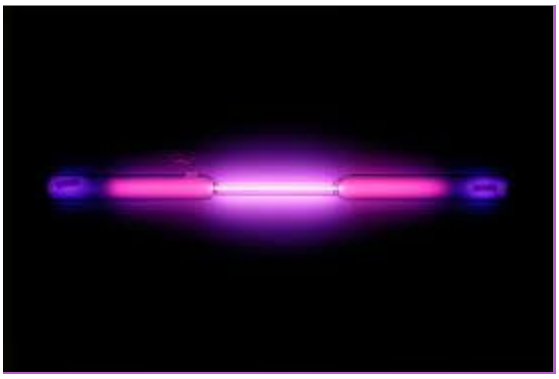






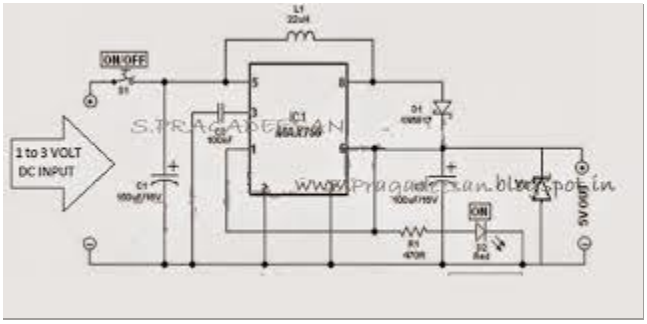

THE CATHERINE FERGUSON CHALLENGE







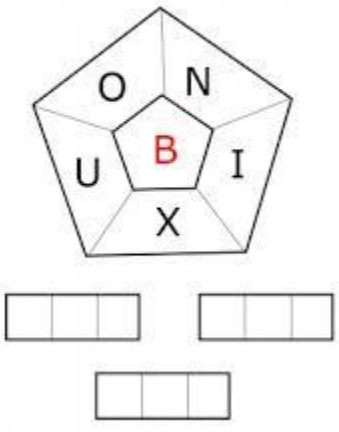




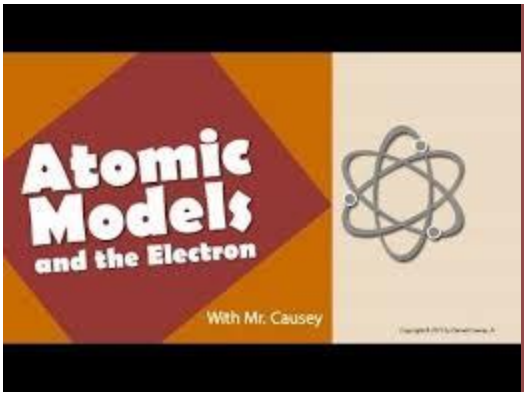




Instructions: Create words using these letters, each of which must start with the middle letter.





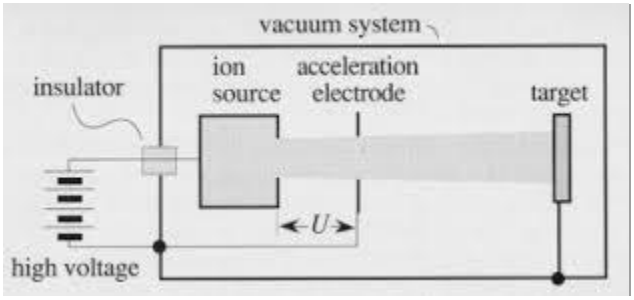

Atomic
Models
and the Electron
With Mr. Causey



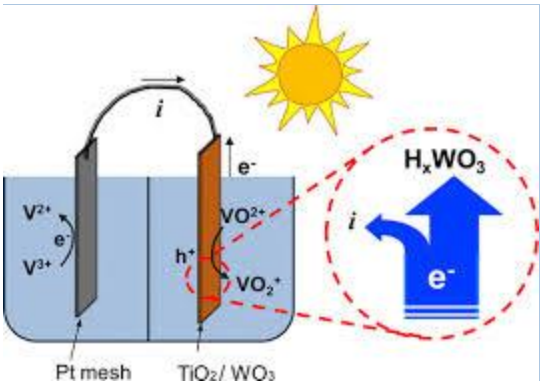


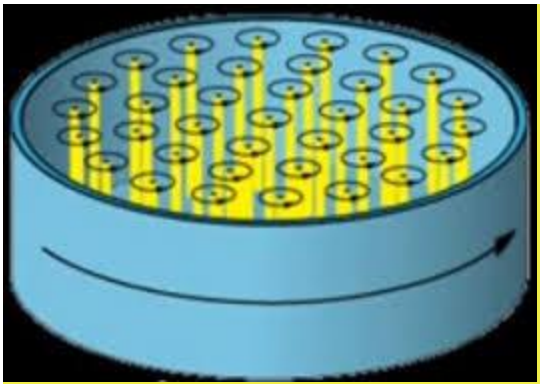





vacuum system
insulator
ion source
acceleration electrode
target
U
high voltage




i
e⁻
H_xWO_3
V^{2+}
e⁻
V^{3+}
VO^{2+}
h⁺
VO_2^+
i
e⁻
Pt mesh
TiO_2/ WO_3

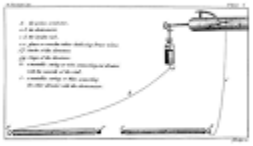




Periodic Trends

Definitions
& Trends

History: 1700's





Is it a Multi-Dimensional *Toroid?*

This research was named differently over the years.

Initial Modeling on Silverscreen Software

Cross sections make pensants? Anyone?

WOW! Improved Clipping Planes tool!

Bo Atkinson From 1994 to present

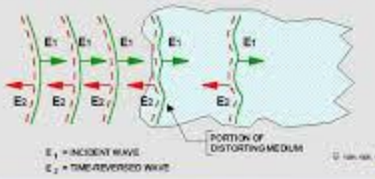
June 2012, formz beta update allows better handling. Next is to try multi-shell versions which used to crash pc.

History: 1930's

- In 1932, Albert Hyman developed a machine for controlled repetitive electrostimulation of heart and named his device the "artificial cardiac pacemaker." [26] (Fig 3) In Hyman's Words:
- "Finally on April 6, 1932, I received Grant No. 30-2 from the Witkin Foundation to explore the possibility of developing a practical machine, to be used as an artificial pacemaker in experimental animals."



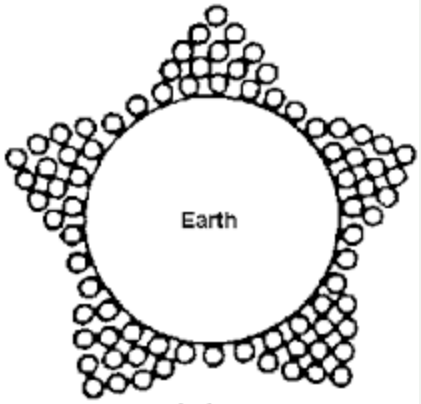
Nonlinear Optics
Distortion Correction Theorem



"If a scalar wave $E_1(r)$ propagates from left to right through an arbitrary but lossless dielectric medium, and if we generate in some region of space [say near z = 0] its phase conjugate replica $E_2(r)$, then E_2 will propagate backward from right to left through the dielectric medium, remaining everywhere the phase conjugate of E_1."



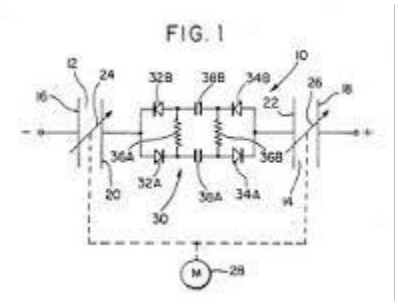
g strain emergy



NMR Spectrometer

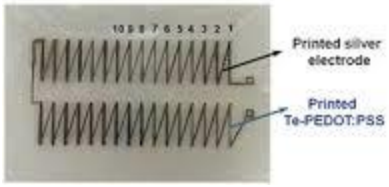
- Essentials of an NMR spectrometer are a powerful magnet, a radio-frequency generator, and a radio-frequency detector.
- The sample is dissolved in a solvent, most commonly $CDCl_3$ or D_2O, and placed in a sample tube which is then suspended in the magnetic field and set spinning.
- Using a Fourier transform NMR (FT-NMR) spectrometer, a spectrum can be recorded in about 2 seconds.



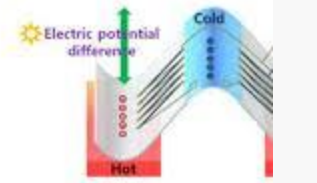


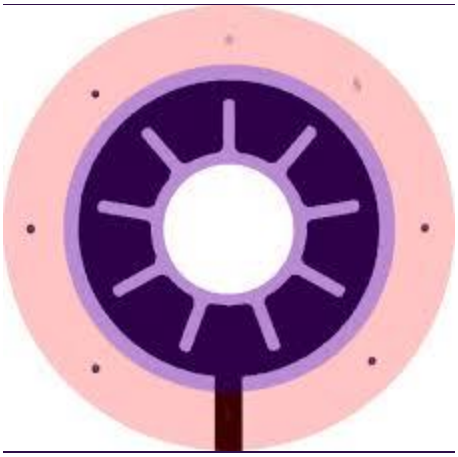


(a)



(b)

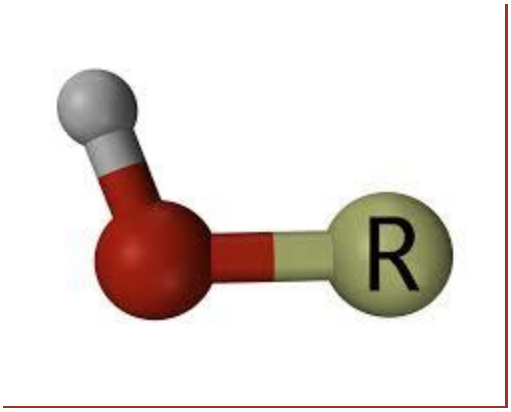




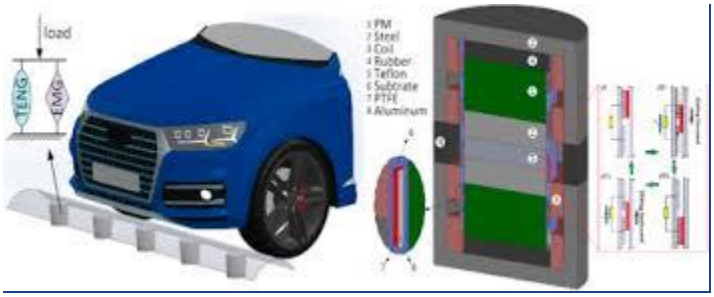
L 25 Electricity & Magnetism [2]

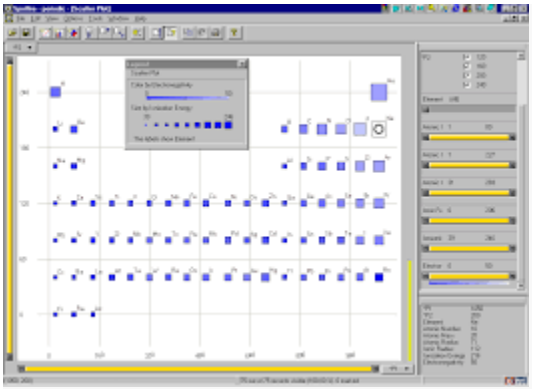
- static electricity
 - the charging process
 - the van de Graff generator
 - electrostatic shielding
- lightning
- batteries and frogs legs
- electric circuits

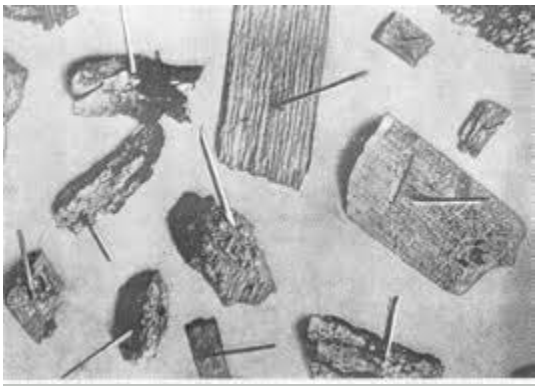


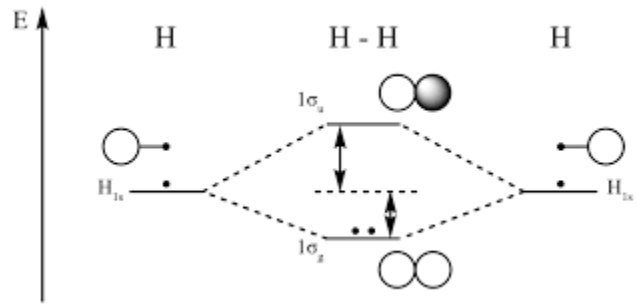

R

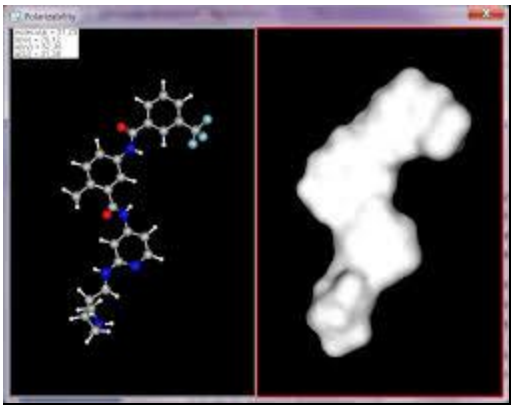

Name:
Spelling List 1
1. an
2. man
3. can
4. ran
5. fan
6. ten
7. pen
8. hen
★ land

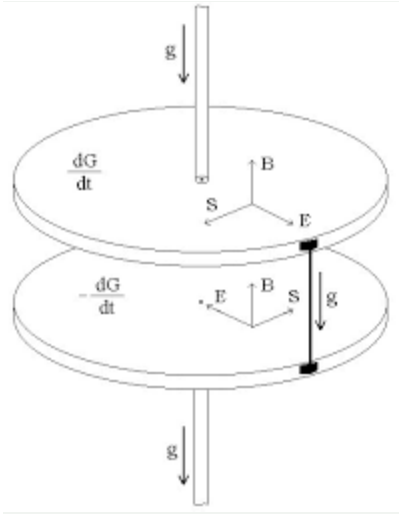

load
TENG
EMG
1 PM
2 Steel
3 Coil
4 Rubber
5 Teflon
6 Substrate
7 PTFE
8 Aluminum





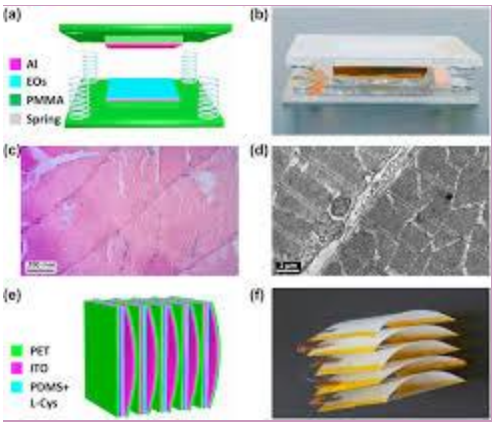

E
H
H - H
H
1σu
1σg
H1s
H1s

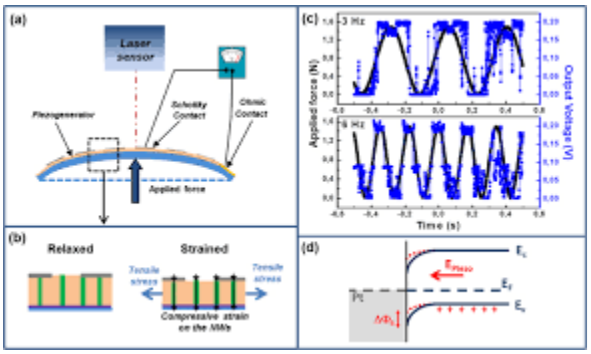


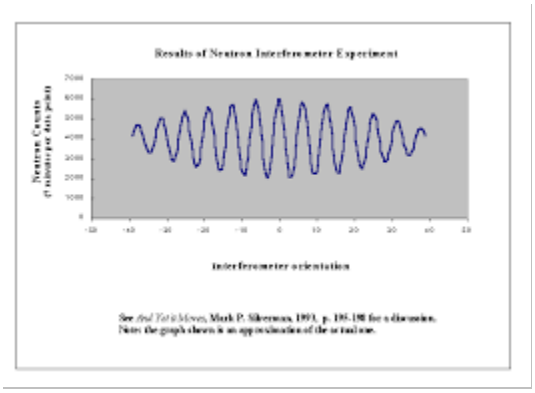

g
dG
dt
B
S
E
dG
dt
E
B
S
g
g

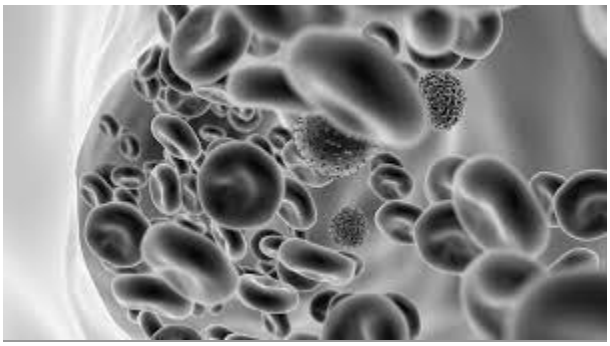




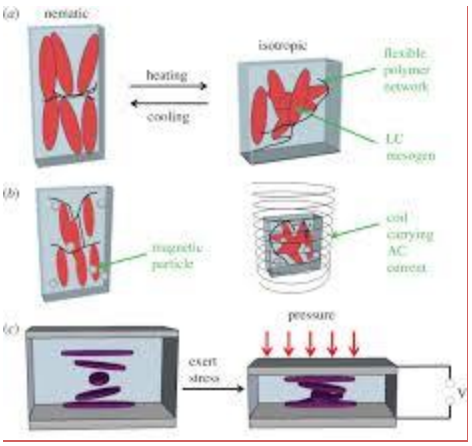

(a)
(b)
Al
EOs
PMMA
Spring
(c)
(d)
(e)
(f)
PET
ITO
POMS+
L-Cys

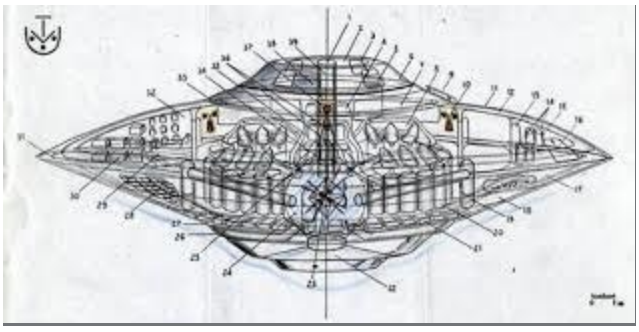

(a)
Laser sensor
Piezogenerator
Schottky Contact
Ohmic Contact
Applied force
(b)
Relaxed
Strained
Tensile stress
Tensile stress
Compressive strain on the MWs
(c)
3 Hz
5 Hz
Applied force (N)
Output voltage (V)
Time (s)
(d)

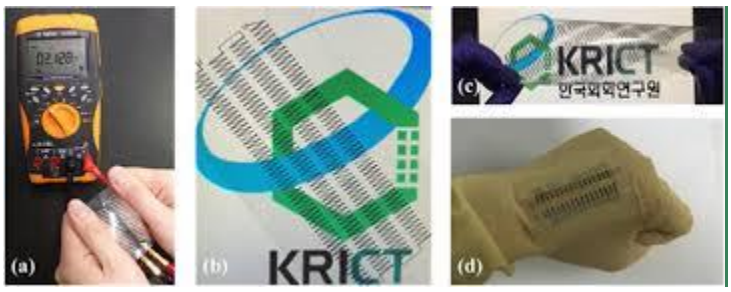

Results of Neutron Interferometer Experiment
Neutron Counts (1 minute per data point)
interferometer orientation
See And Yet it Moves, Mark P. Silverman, 1993, p. 195-198 for a discussion.
Note: the graph shown is an approximation of the actual one.

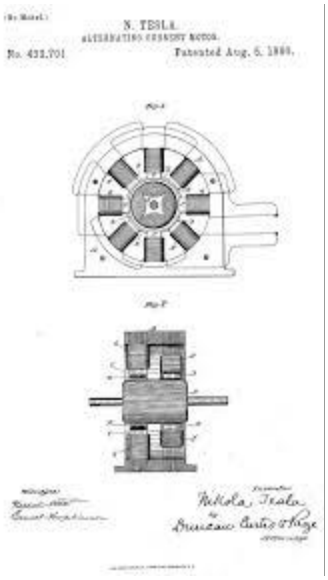


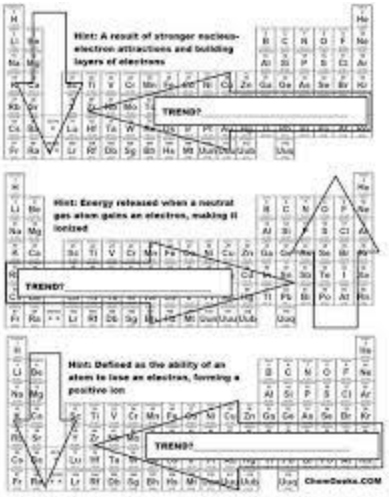


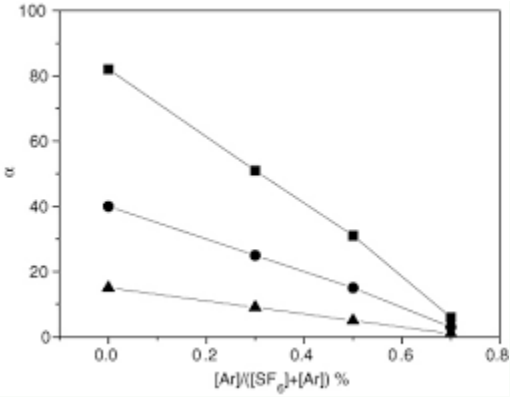

(a)
nematic
heating
cooling
isotropic
flexible polymer network
LC mesogen
(b)
magnetic particle
coil carrying AC current
(c)
pressure
exert stress
V

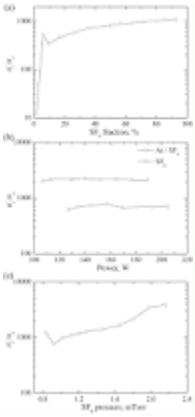


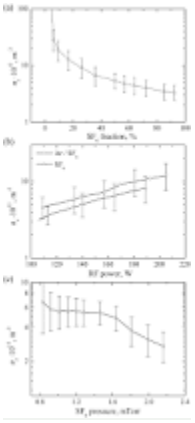

(a)
(b)
KRICT
(c)
KRICT
한국화학연구원
(d)









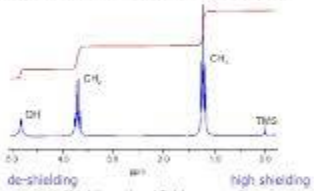


Chemical Shift

Again, consider Maxwell's theorem that an electric current in a loop generates a magnetic field. Effectively, the electron distribution in the chemical will cause distinct local magnetic fields that will either add to or subtract from B_o

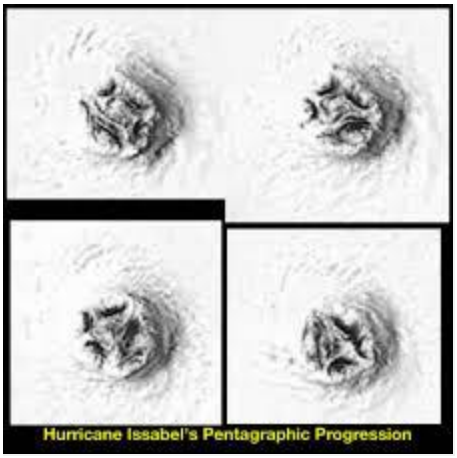
$HO\text{-}CH_2\text{-}CH_3$

$B_{eff} = B_o(1 - \sigma)$

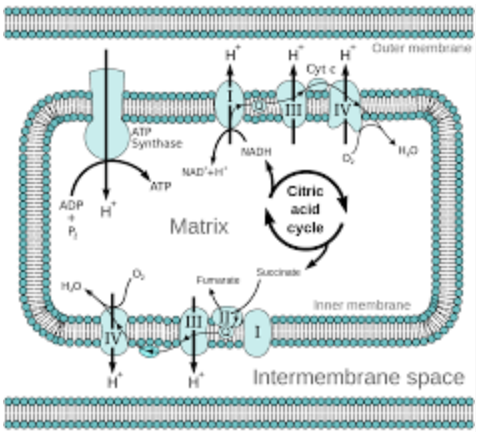


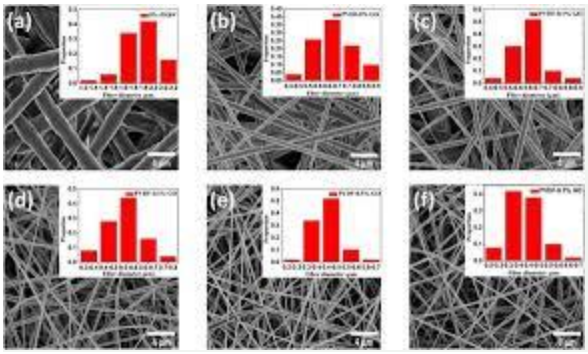
Shielding – local field opposes B_o

Aromaticity, electronegativity and similar factors will contribute to chemical shift differences

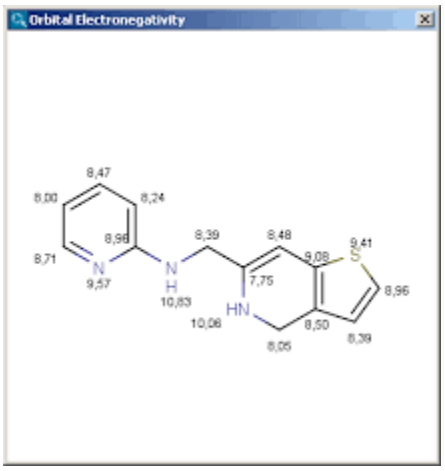





Outer membrane
ATP Synthase
ATP
ADP + P_i
H^+
Matrix
NADH
$NAD^+ + H^+$
Cyt c
Citric acid cycle
H_2O
O_2
Fumarate
Succinate
Inner membrane
Intermembrane space


(a)
(b)
(c)
(d)
(e)
(f)

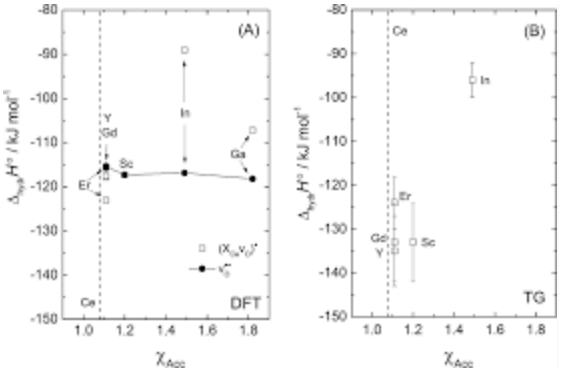


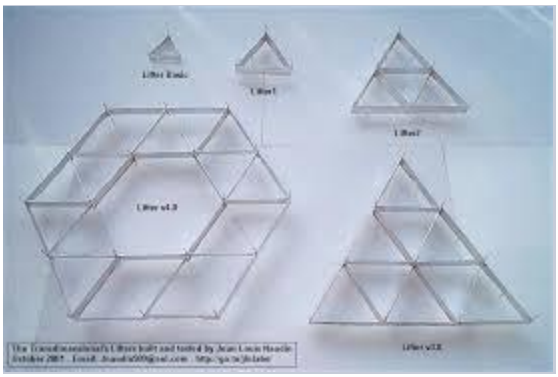

Orbital Electronegativity
8,47
8,00
8,24
8,96
8,71
N
9,57
8,39
N
H
10,83
8,48
9,08
7,75
9,41
S
8,96
HN
10,06
8,50
8,39
8,05



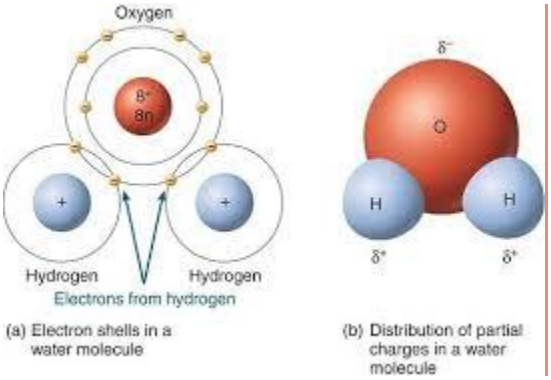





(A)
(B)
DFT
TG
Ce
In
Y
Gd
Sc
Er
Ga
$\Delta_{hyd}H^\circ$ / kJ mol^{-1}
χ_{Acc}



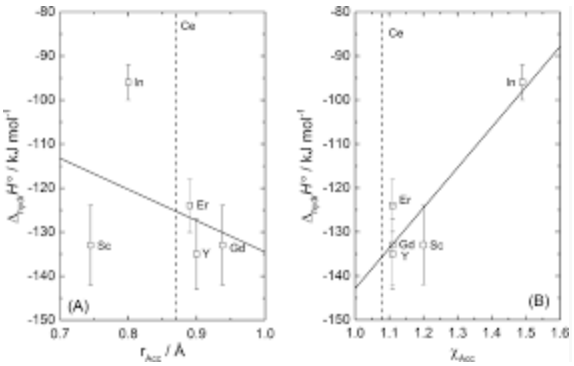


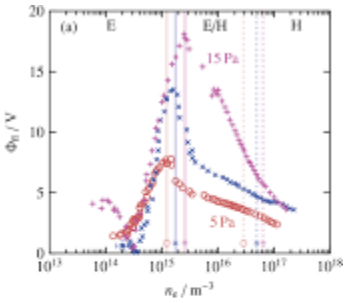


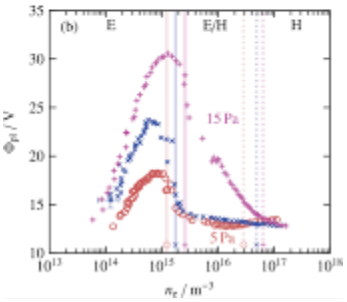
(a) Electron shells in a water molecule

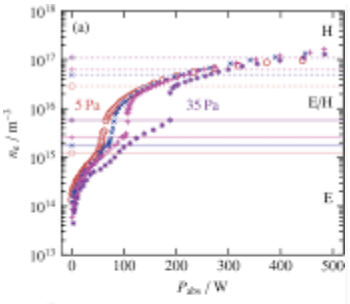
(b) Distribution of partial charges in a water molecule

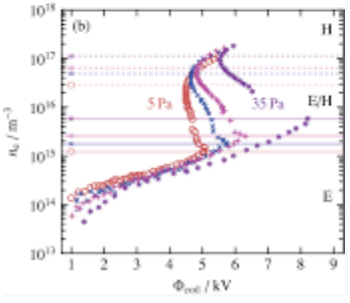


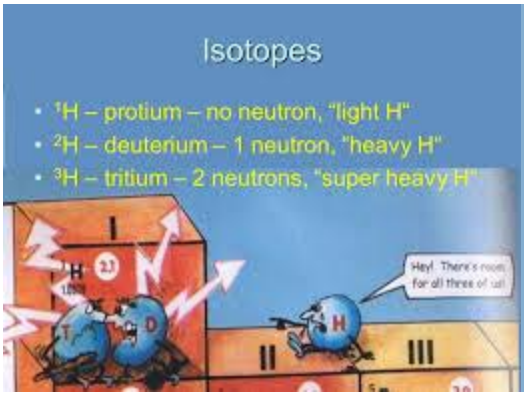




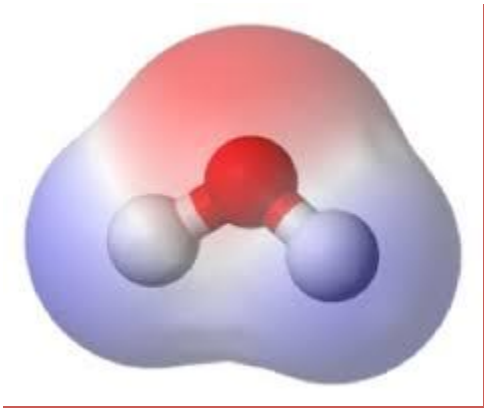






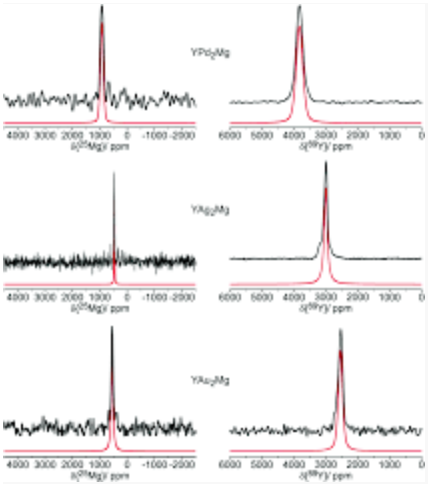

Isotopes
• ¹H – protium – no neutron, "light H"
• ²H – deuterium – 1 neutron, "heavy H"
• ³H – tritium – 2 neutrons, "super heavy H"
Hey! There's room for all three of us!


In this short video I will show you how you can slash your electricity bill by 80% or more starting TODAY...by using an unconventional, but Highly effective power generating method that people use in Vietnam

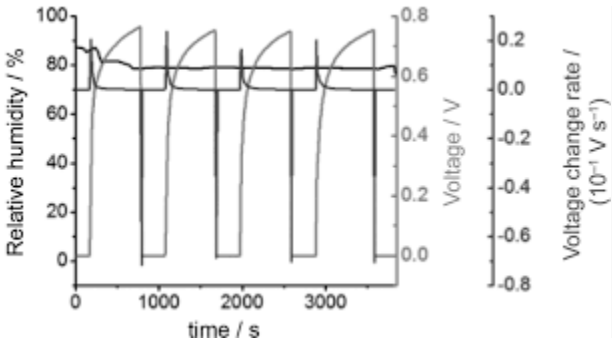






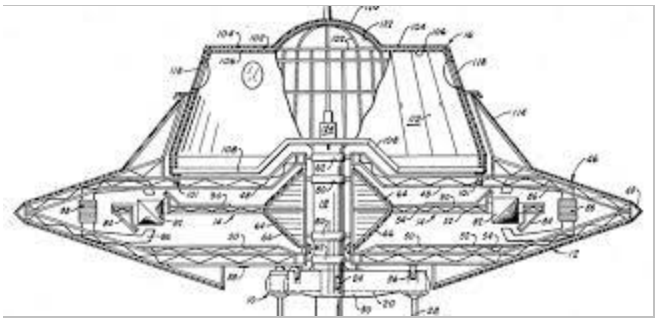

YPd₂Mg
YAg₂Mg
YAu₂Mg

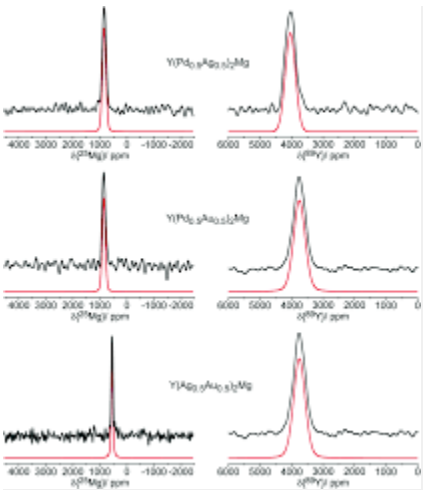



Relative humidity / %
Voltage / V
Voltage change rate / (10⁻¹ V s⁻¹)
time / s

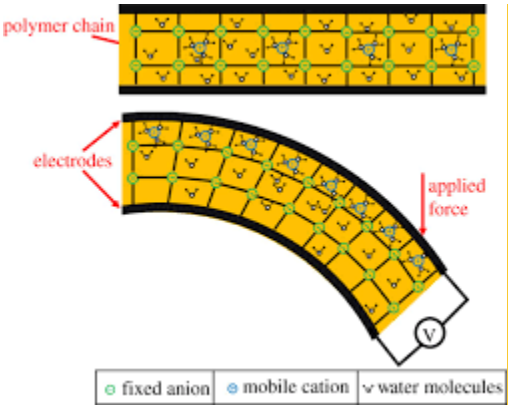

Vid21 Washer Cell Hydrogen Generator (HHO, Brown's Gas,



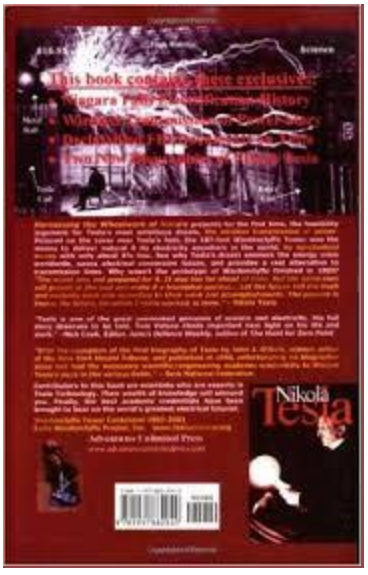


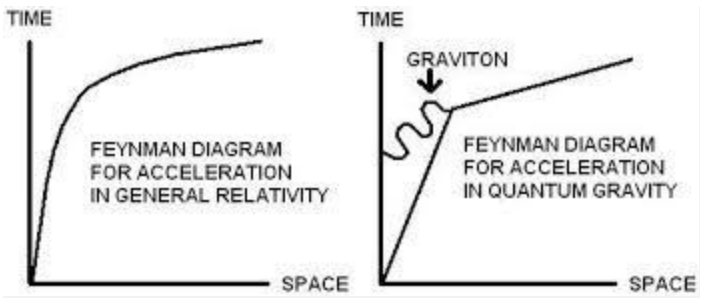





polymer chain
electrodes
applied force
V
fixed anion
mobile cation
water molecules




Nikola Tesla

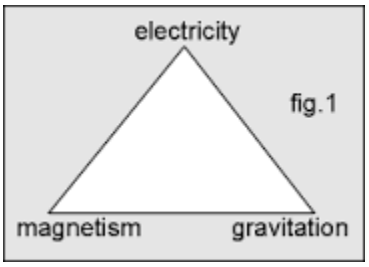

TIME
FEYNMAN DIAGRAM
FOR ACCELERATION
IN GENERAL RELATIVITY
SPACE
TIME
GRAVITON
FEYNMAN DIAGRAM
FOR ACCELERATION
IN QUANTUM GRAVITY
SPACE

Agenda

Session / Window Managers

Desktop Environments:

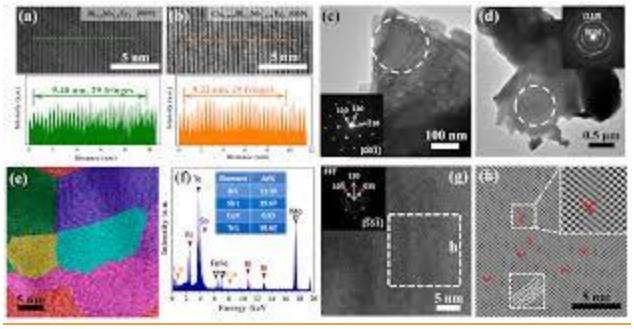
- Session Managers
- Virtual Desktops
- Desktop Environments
- Window Managers
 - Running Windows Manager Alone

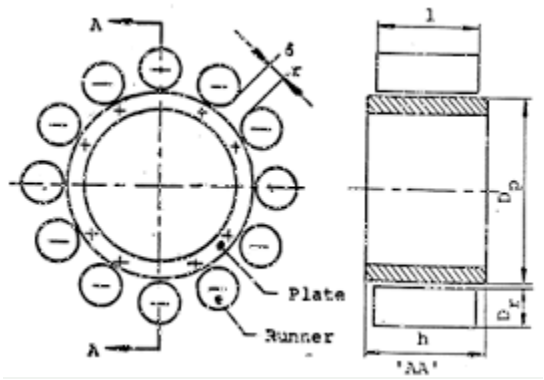




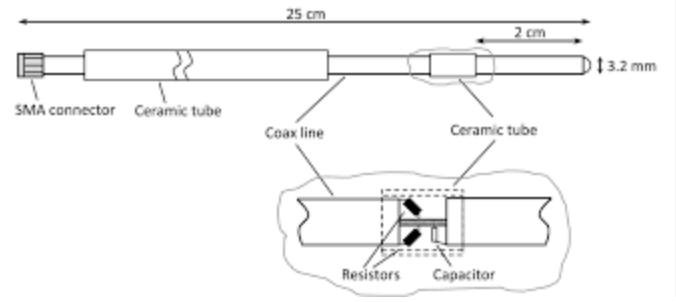


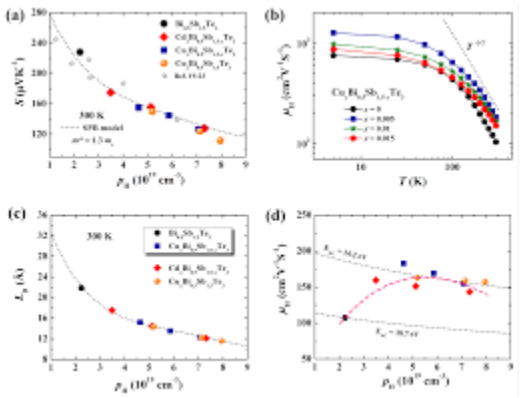


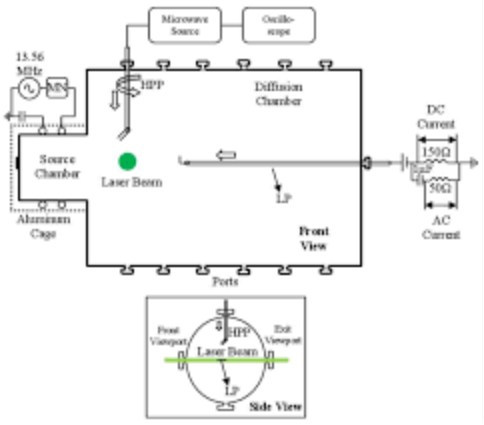


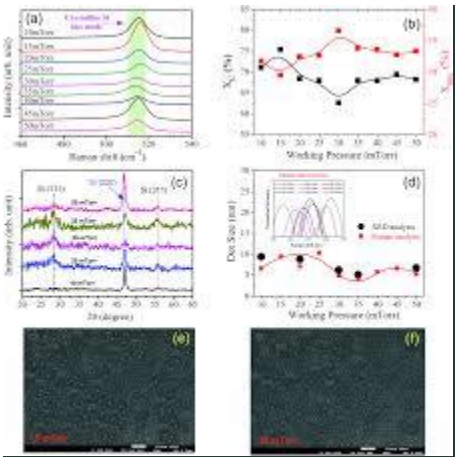








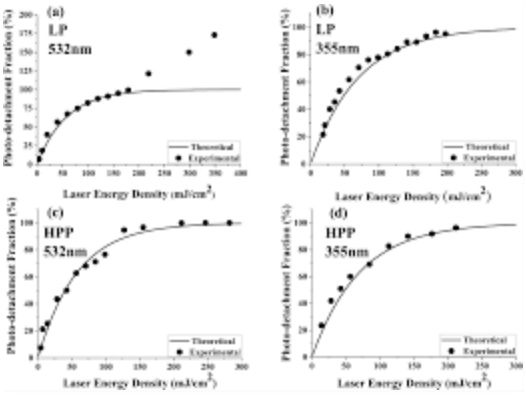




Nuclear Spin States

- A nucleus with spin quantum number I has $2I + 1$ spin states; if $I = 1/2$, there are two allowed spin states.
- Spin quantum numbers and allowed nuclear spin states for atoms common to organic compounds.

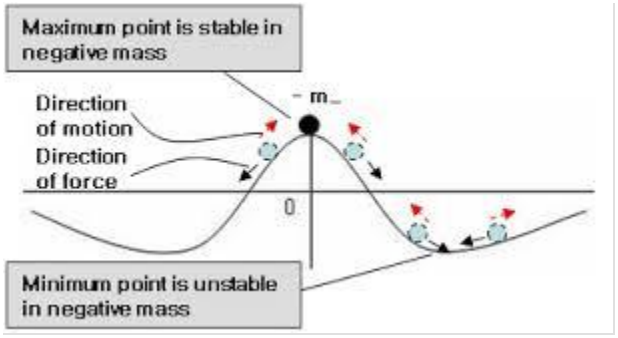
Element	^1H	^2H	^{12}C	^{13}C	^{14}N	^{16}O	^{17}O	^{19}F	^{31}P	^{32}S
Nuclear spin quantum number (I)	1/2	1	0	1/2	1	1/2	0	1/2	1/2	0
Number of spin states	2	3	1	2	3	2	1	2	2	1



H 2.1																	He
Li 1.0	Be 1.5											B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne
Na 0.9	Mg 1.2											Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe 2.6
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une									

Ce 1.1	Pr 1.1	Nd 1.1	Pm 1.1	Sm 1.1	Eu 1.1	Gd 1.1	Tb 1.1	Dy 1.1	Ho 1.1	Er 1.1	Tm 1.1	Yb 1.1	Lu 1.2
Th 1.3	Pa 1.5	U 1.7	Np 1.3	Pu 1.3	Am 1.3	Cm 1.3	Bk 1.3	Cf 1.3	Es 1.3	Fm 1.3	Md 1.3	No 1.3	Lr





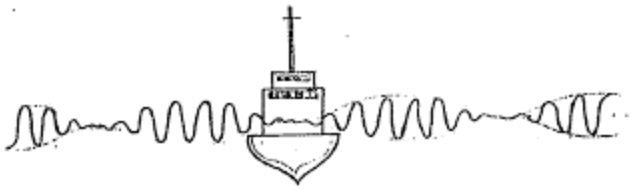
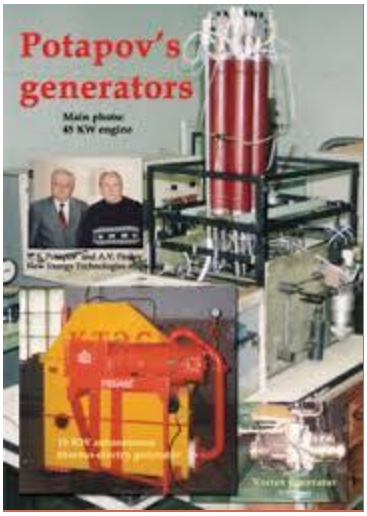


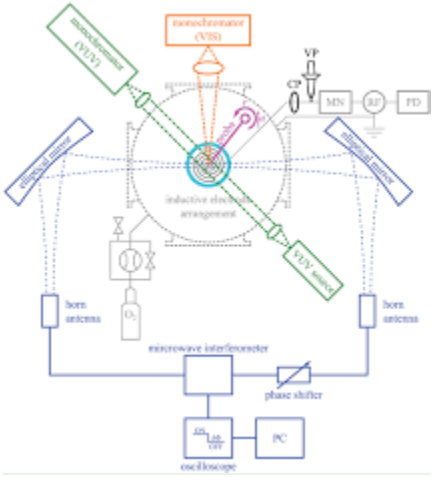
Fig4






Potapov's generators
Main photo:
45 KW engine

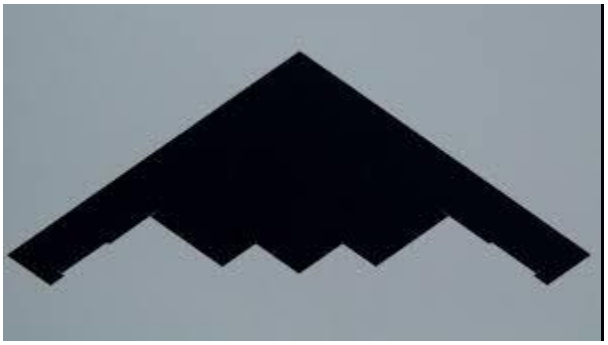



monochromator (VIS)
VP
CP
MN
AP
PD
ellipsoidal mirror
ellipsoidal mirror
inductive electrode arrangement
VUV source
horn antenna
horn antenna
microwave interferometer
phase shifter
PC
oscilloscope


EHB Army Secret Weapon
Gravity Generator

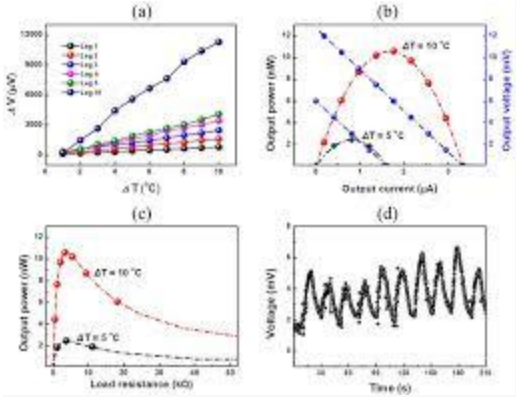
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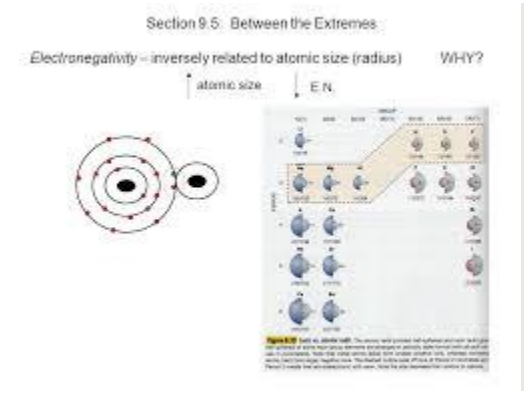

www.MagPower.us

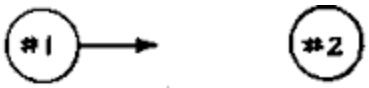




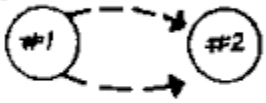




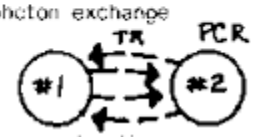




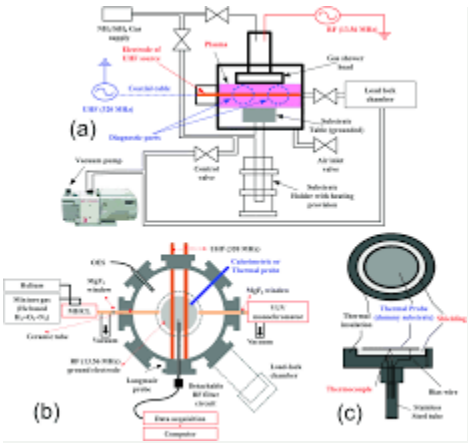
A: Approach



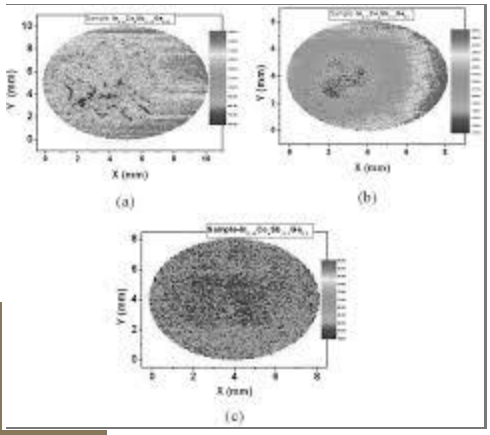
B: Virtual photon exchange



C: With phase conjugation











ABSTRACT

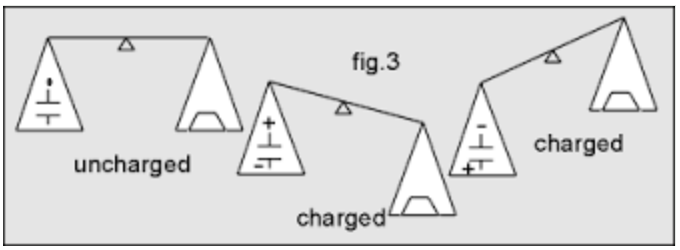
Nanobubbles are nanoscopic gaseous cavities in aqueous solutions which demonstrate an extended lifetime. Furthermore, water that is enriched with nanobubbles has completely different fundamental physicochemical and physicomechanical characteristics compared with water which not contains nanobubbles. The most notable characteristic of nanobubbles is their apparent extraordinary longevity being able to last for weeks and months. To date, experimental evidence concerning the existence of nanobubbles is sound, however a theoretical understanding is still lacking. The first step was to review the literature, trying to present formation theories and explain the pertinent nanobubble stability, the most notable applications of nanobubbles as a) also presented and discussed. The purpose of the dissertation was to elucidate the effects of nanobubble suspensions, produced with nanobubbles generators, and study the nanobubble formation, size distribution, coalescence, stability and dynamic behavior. Consequently, gain insight into the properties of nanobubbles. This study discussed the effects of bulk nanobubbles on the physicochemical properties of water based on research results from a variety of experiments. Two different types of NB generators were used. The "porous plug generator" is an innovative device which was designed in ISSAT Teil- and is under EPO patent. Hence, it was of vital importance to thoroughly examine both generations and compare their performance. As it derives from Dynamic Light Scattering and zeta potential measurements, nanobubbles produced from the porous plug generator are smaller (<500 nm) and more stable (> 30 m to 40 mins of operations compared to those produced from the nozzle generator, the mean size of which is >580 nm and their zeta potential is -5 mV. It seems that the porous plug generator produces >700×10⁶ NB/cm³ or 700×10⁹ NB/mL. On the other hand, the nozzle generator only produces >126×10⁶ NB/cm³ or 126×10⁹ NB/mL. Furthermore, nanobubbles have been found to increase electrical conductivity of the water. Vapor pressure have been found to increase by 1 kPa.

SUBJECT AREA: Nanotechnology

KEYWORDS: nanobubbles, porous plug generator, stability, bulk, DLS







Biefeld–Brown Effect: Misinterpretation of Corona Wind Phenomena

AIAA Journal > 1 February 2004, vol. 42, no. 2, pp. 315-318(4)

Tajmar M.

Abstract:
With its theoretical origins dating back to the early 1920s, the Biefeld-Brown effect was believed to be responsible for the generation of thrust in capacitor configurations exposed to high voltage. This thrust was claimed to be unrelated to corona wind phenomena and to exist in vacuum. These claims, although only published in patents, survived until recent publications for very advanced propulsion concepts. Brown's and similar work, as well as credible theoretical and experimental studies relating to the Biefeld-Brown effect, are reviewed. Moreover, an experiment was carried out to investigate any thrust not related to corona discharges. No thrust was detected within the accuracy of the experimental setup. This puts new boundaries on any anomalous Biefeld-Brown force. Measurements indicate that such anomalous force must be at least five orders of magnitude below corona wind phenomena and must have at least a two orders of magnitude higher power-to-thrust ratio compared to traditional electric propulsion thrusters. Hence, even if the effect exists, it would not be attractive for space propulsion. The obtained results suggest that corona wind effects were misinterpreted as a connection between gravity and electromagnetism.

Document Type: Regular paper **ISSN:** 0001-1452

SICI (online): 0001-1452(20040201)42:2L.315;1-

Publisher: American Institute of Aeronautics and Astronautics

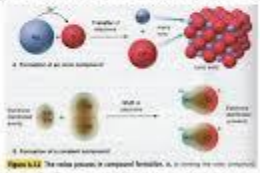
Section 9.5 Between the Extremes

Electronegativity and Oxidation Number (O.N.)
(Review of O.N.: Section 4.5)

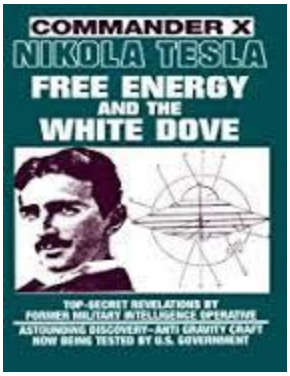
Oxidation-reduction (redox) reactions: The net movement of electrons from one reactant to the other.

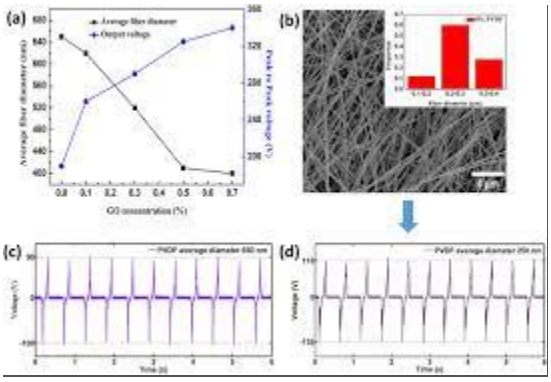
Oxidation = the *loss* of e⁻ (LEO); Reduction = the *gain* of e⁻ (GER)
"LEO the *lions says* GER"

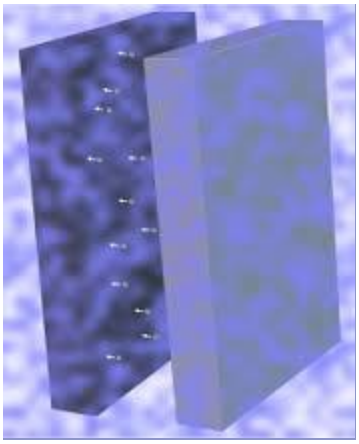
Oxidizing agent – becomes reduced; Reducing agent – becomes oxidized



Which element is oxidized? Reduced? Which is the oxidizing agent? Reducing agent?



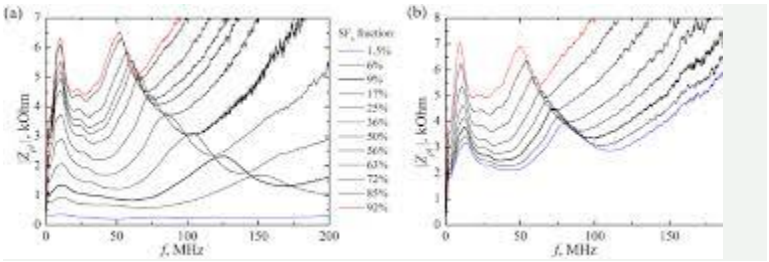


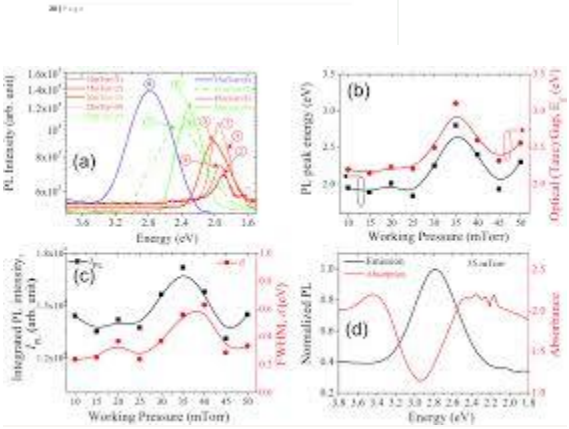




GENERATOR

In DCPP, there are four synchronous generators of rating 155 MW are used. It is a 3-phase,two pole synchronous generator. It also has brushless excitation system. Its rated current is 7000 A and rated power factor is 0.8 lagging. Its efficiency is about 98.65% at full load. Its r.p.m. is 3000. Generators are used to convert mechanical energy to electrical energy. It works on the principle of Faraday's law of induction. It contains a stationary stator and a spinning rotor. Each generator is mechanically coupled with turbine through a shaft. Shaft is further connected to a coil of a copper wire known as armature. On either side of the armature, on the casing of the generator, we have two polar field magnets that create a magnetic field inside the space within the generator. As the rotor, shaft and armature rotates, they move within the magnetic field created by the magnets.

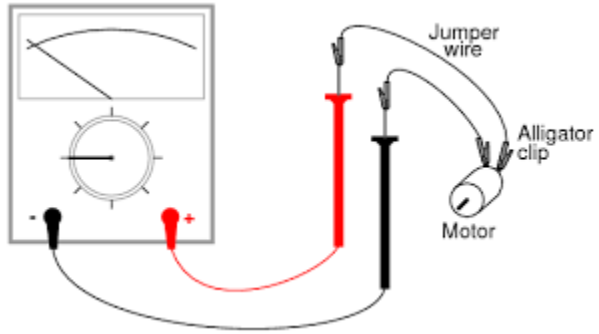


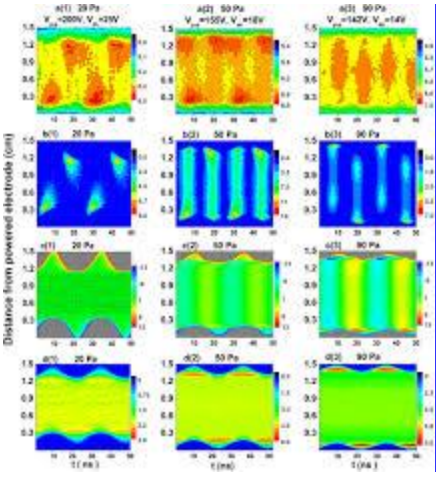








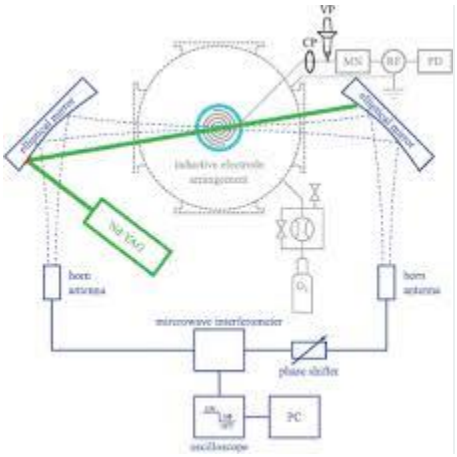


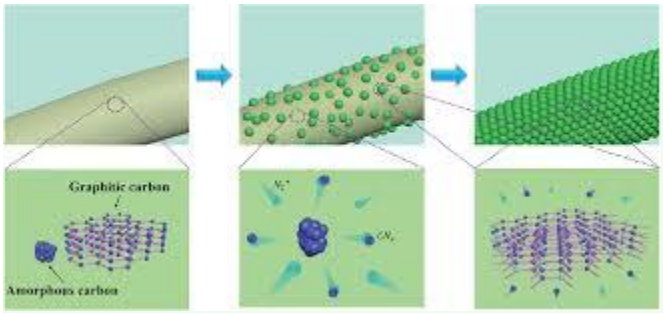


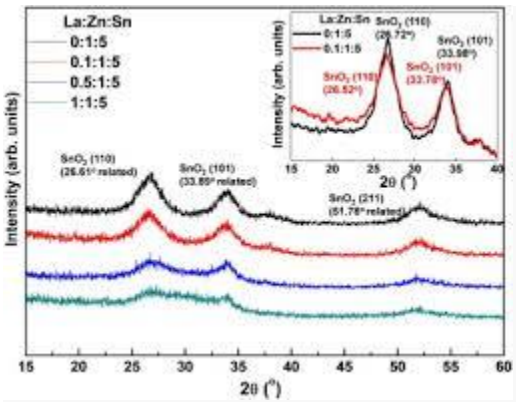


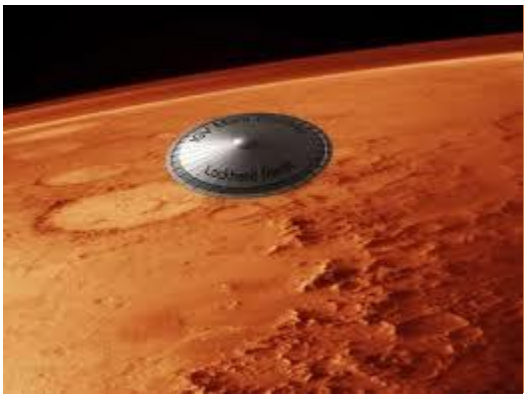


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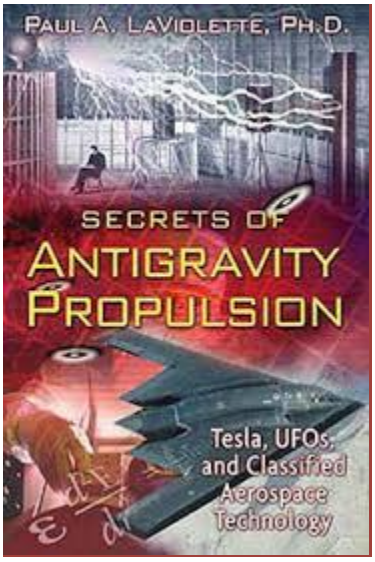


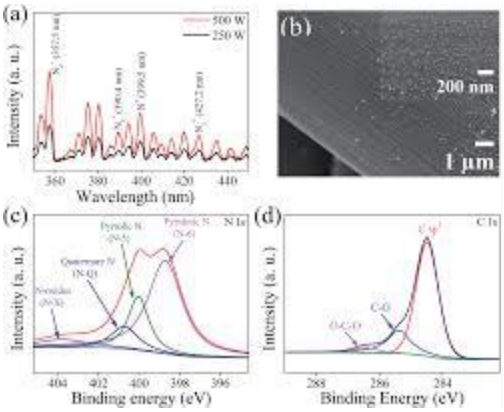


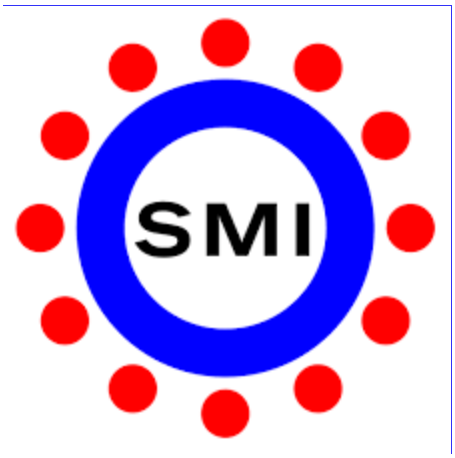


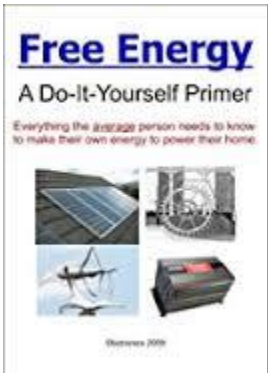


3 days ago

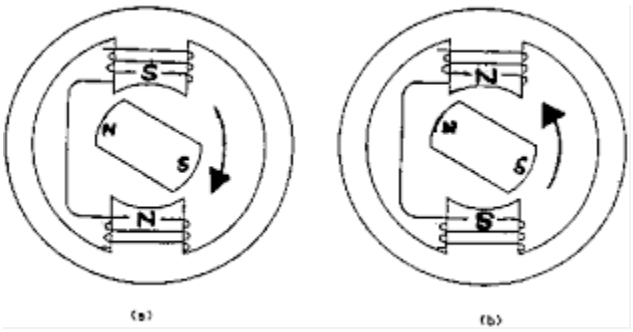



(a)
500 W
250 W
Intensity (a. u.)
360 380 400 420 440
Wavelength (nm)
(b)
200 nm
1 μm
(c)
Intensity (a. u.)
404 402 400 398 396
Binding energy (eV)
(d)
Intensity (a. u.)
288 286 284
Binding Energy (eV)

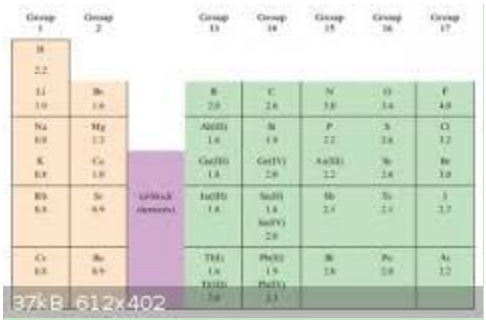

SMI

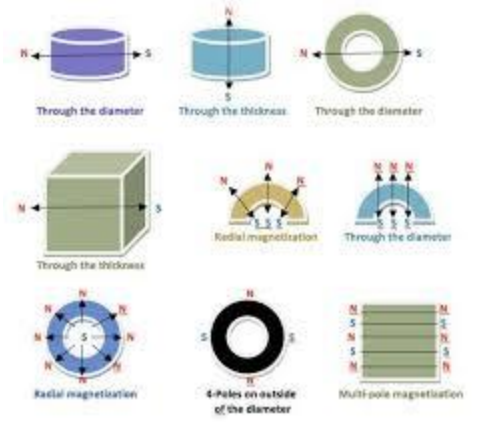

Free Energy
A Do-It-Yourself Primer
Everything the average person needs to know to make their own energy to power their home

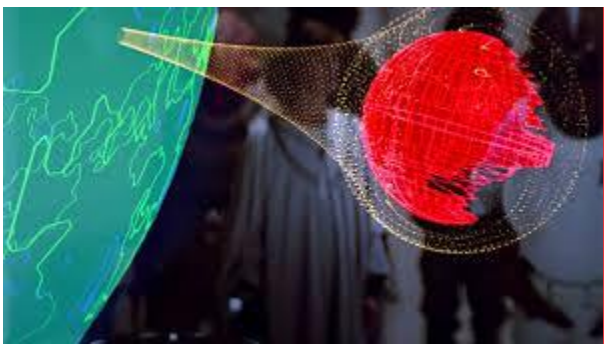

The Schumann Resonances
30 Second Average Spectra Over 8-Hour Period
μV
7.8 Hz
14 Hz
20 Hz
26 Hz
33 Hz
39 Hz
45 Hz


S
N
N
S
N
S
S
N
N
S
(a)
(b)



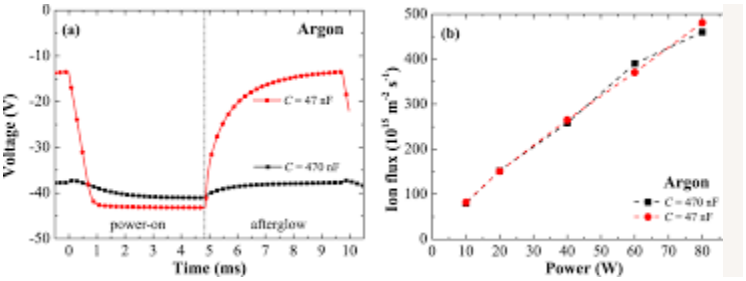

37kB 612x402

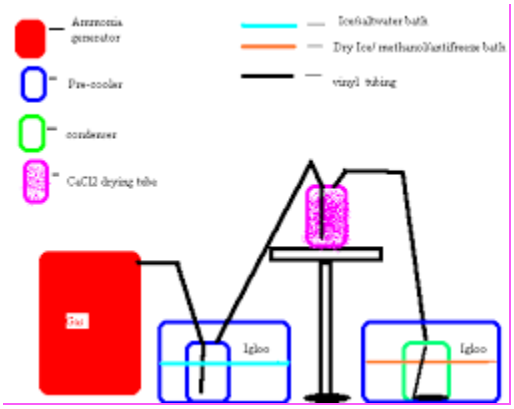

Through the diameter
Through the thickness
Through the diameter
Through the thickness
Radial magnetization
Through the diameter
Radial magnetization
4-Poles on outside of the diameter
Multi-pole magnetization















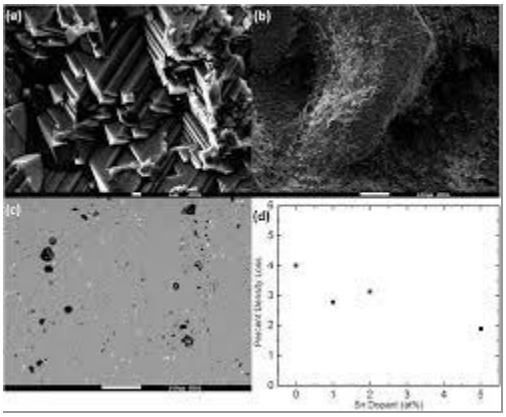
blue Nobel badge, issued to synchro1

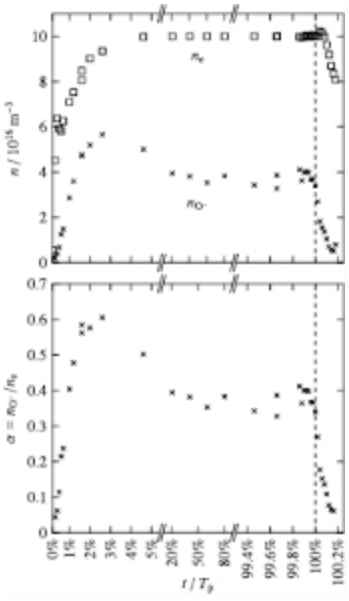




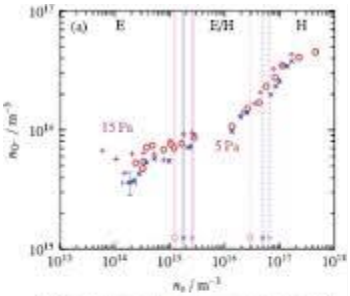

SALTER
0.10

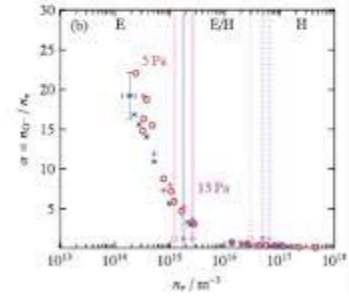



(a)
(b)
(c)
(d)
Percent Density Loss
Sn Dopant (at%)

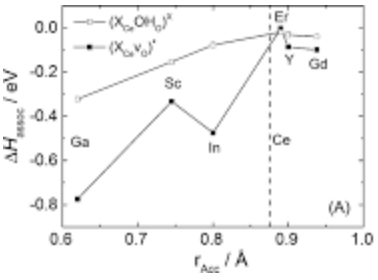

n / 10^16 m^-3
n_e
n_O-
α = n_O- / n_e
0%
1%
2%
3%
4%
5%
20%
50%
80%
99.4%
99.6%
99.8%
100%
100.2%
t / T_p

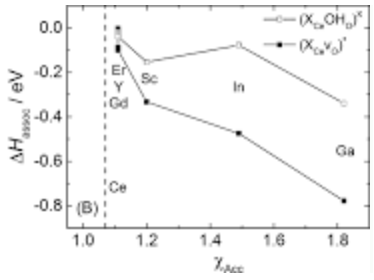



(a)
E
E/H
H
15 Pa
5 Pa
n_O- / m^-3
n_e / m^-3


(b)
E
E/H
H
5 Pa
15 Pa
α = n_O- / n_e
n_e / m^-3

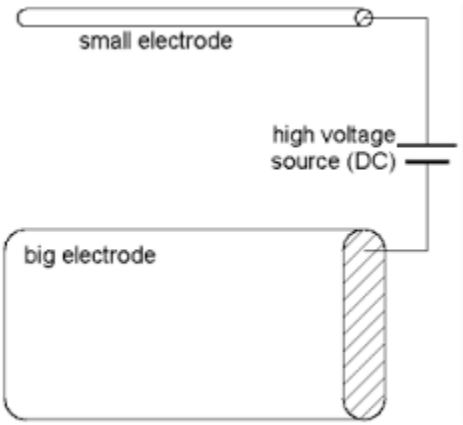



(X_Ce OH_i)^x
(X_Ce v_O)^x
Er
Y
Gd
Sc
Ga
In
Ce
(A)
ΔH_assoc / eV
r_Acc / Å


(X_Ce OH_i)^x
(X_Ce v_O)^x
Er
Y
Gd
Sc
In
Ga
Ce
(B)
ΔH_assoc / eV
χ_Acc













Section 9.5: Between the Extremes

Electronegativity and Oxidation Number (O.N.)

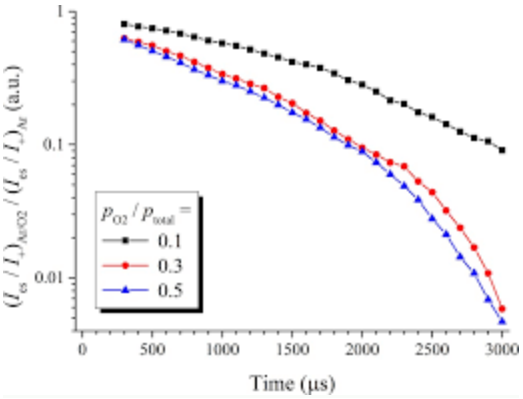
E.N. is used to determine an atom's O.N. in a given bond.

(1) The more E.N. atom in a bond is assigned ALL the SHARED e-; The less E.N. atoms is assigned NONE

Example: HCl Cl: 8 H: 0

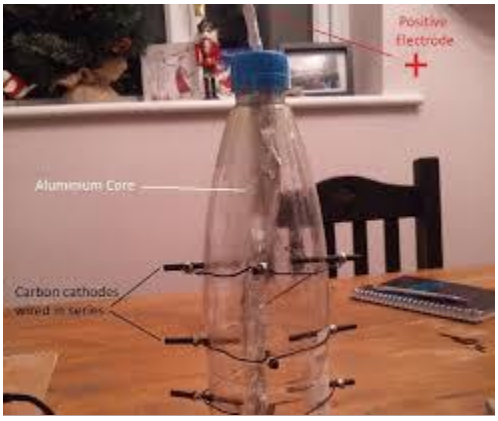
(2) O.N. = # valence e- - # shared e-

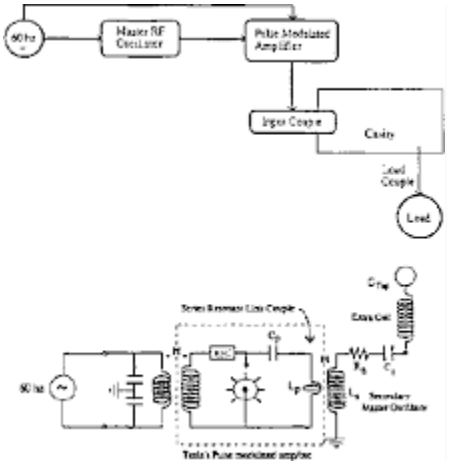
Example: $O.N._{Cl} = 7 - 8 = -1$ $O.N._{H} = 1 - 0 = +1$

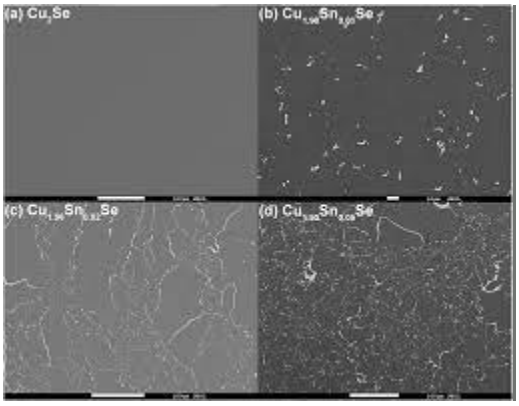


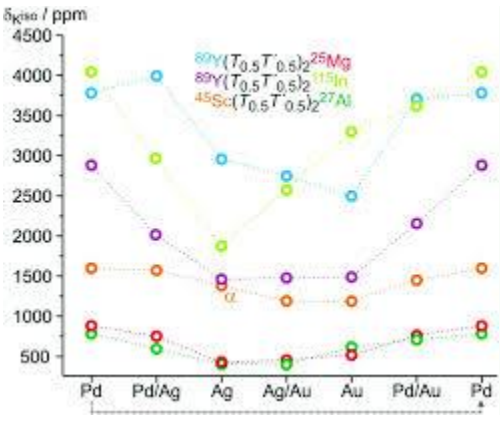


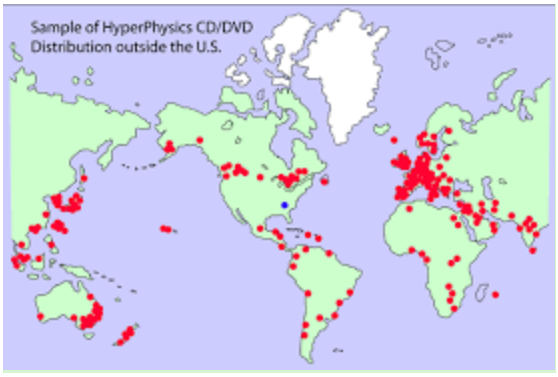

9.0°

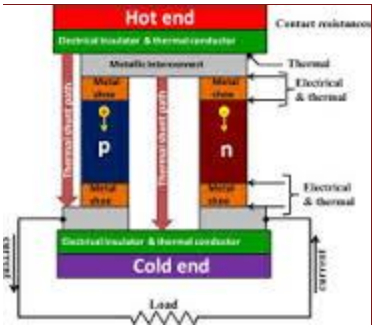

Positive Electrode
+
Aluminium Core
Carbon cathodes wired in series

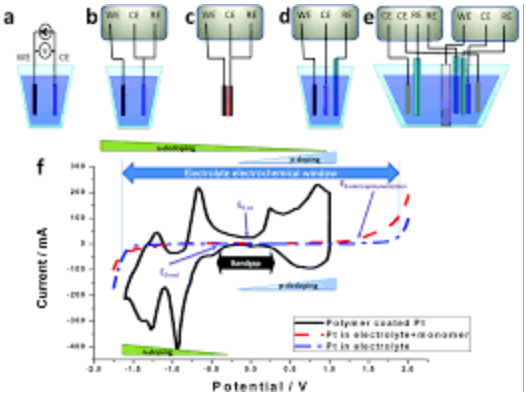

60 Hz
Master RF Oscillator
Pulse Modulated Amplifier
Input Coupling
Cavity
Load Coupling
Load

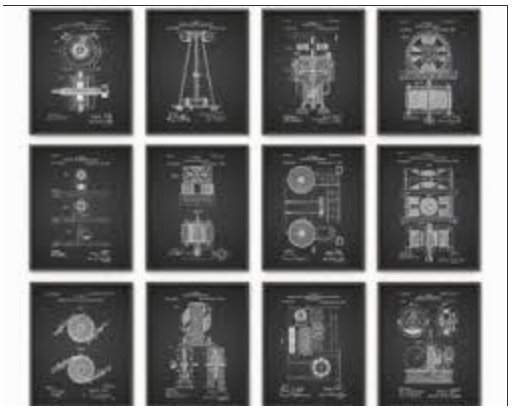

(a) Cu2Se
(b) Cu1.96Sn0.99Se
(c) Cu1.94Sn1.03Se
(d) Cu1.92Sn1.04Se


δKiso / ppm
4500
4000
3500
3000
2500
2000
1500
1000
500
89Y(T0.5T'0.5)2 25Mg
89Y(T0.5T'0.5)2 115In
45Sc(T0.5T'0.5)2 27Al
Pd
Pd/Ag
Ag
Ag/Au
Au
Pd/Au
Pd


Sample of HyperPhysics CD/DVD
Distribution outside the U.S.

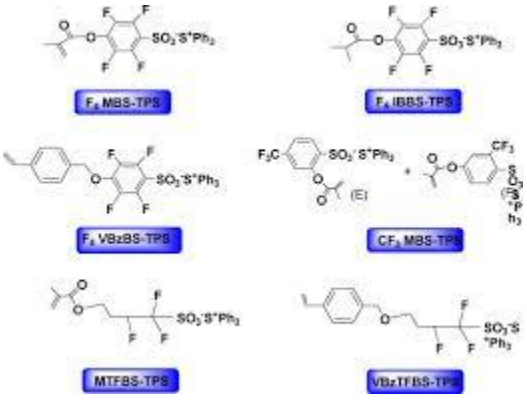

Hot end
Contact resistances
Thermal
Electrical & thermal
p
n
Electrical & thermal
Cold end
Load


a
b
c
d
e
f
Current / mA
Potential / V
Electrolyte electrochemical window
Bandgap
Polymer coated Pt
Pt in electrolyte+monomer
Pt in electrolyte

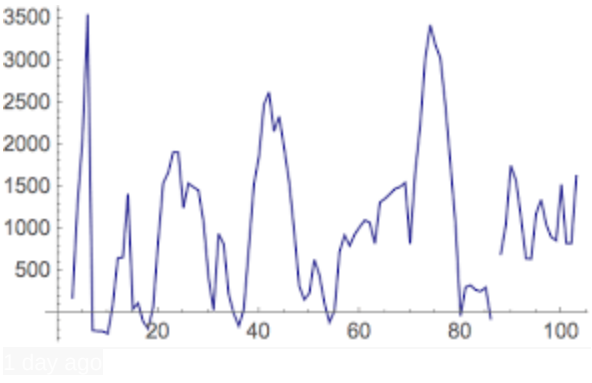


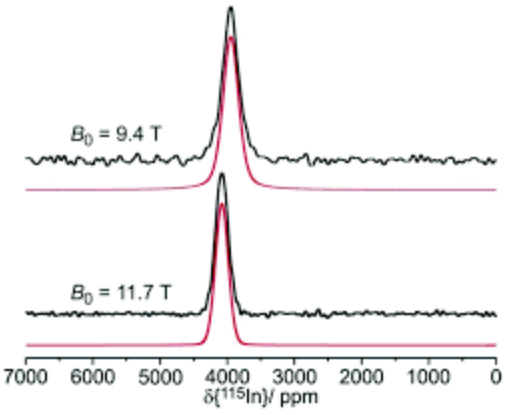




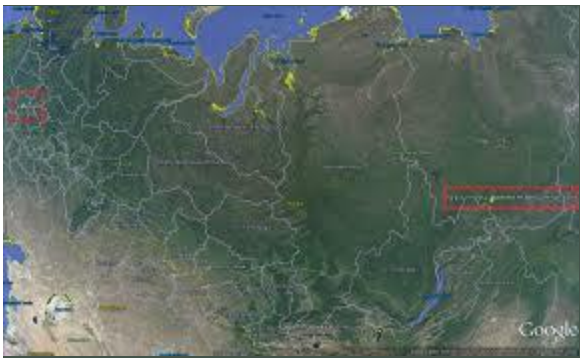

F4 MBS-TPS
F4 iBBS-TPS
F4 VBzBS-TPS
CF3 MBS-TPS
MTFBS-TPS
VBzTFBS-TPS

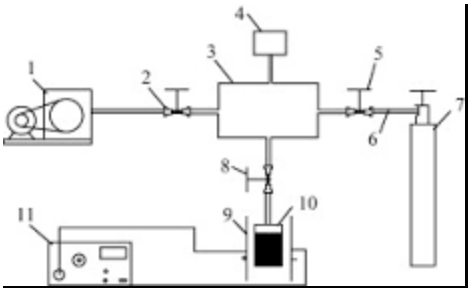


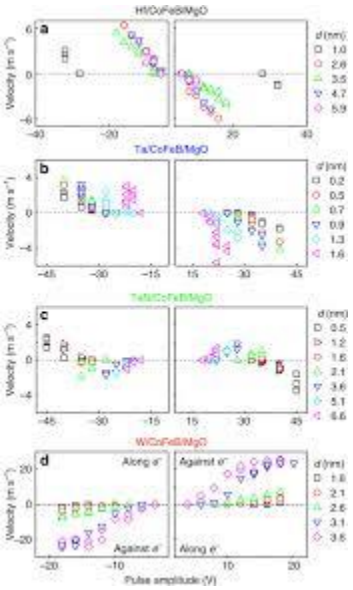

3500
3000
2500
2000
1500
1000
500
20
40
60
80
100


B0 = 9.4 T
B0 = 11.7 T
7000
6000
5000
4000
3000
2000
1000
0
δ(115In)/ ppm

1 day ago









Name: _____ Date: _____

Fourth Grade Spelling Word List Week 1

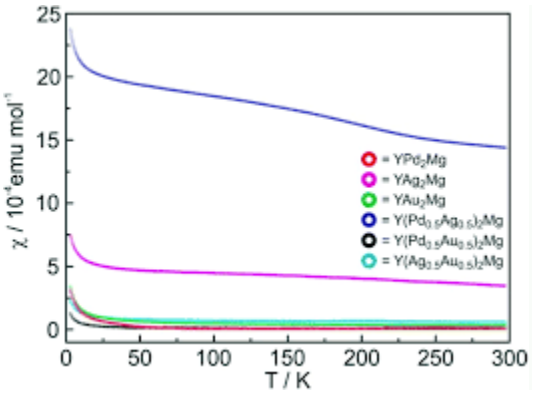
Short /i/ Vowel Sound and Sight Words

Directions: Write each spelling word two times on the lines provided.

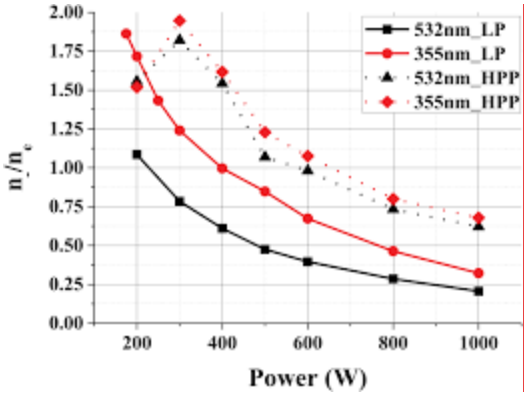
1. adjective _____ _____
2. happen _____ _____
3. began _____ _____
4. answer _____ _____
5. add _____ _____
6. after _____ _____
7. then _____ _____
8. black _____ _____
9. plant _____ _____
10. country _____ _____
11. animal _____ _____
12. slowly _____ _____
13. writing _____ _____
14. discover _____ _____
15. known _____ _____
16. stories _____ _____

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$$(1)\ \mathrm{CP} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \mathrm{e}^-$$

$$(2)\ \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \mathrm{e}^-$$

$$(3)\ \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \mathrm{e}^-$$

$$(4)\ \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \mathrm{e}^-$$

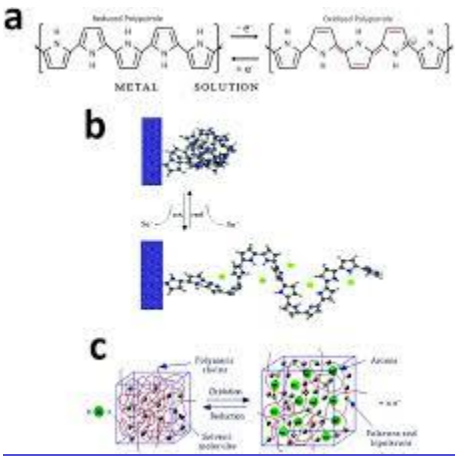
$$(5)\ \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{5+}\right)\left(\mathrm{A}^-\right)_5 + \mathrm{e}^-$$

$$\cdots$$

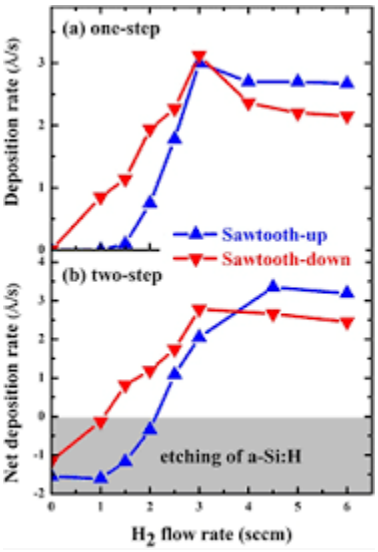
$$(6)\ \left(\mathrm{CP}^{(n-1)+}\right)\left(\mathrm{A}^-\right)_{(n-1)} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{n+}\right)\left(\mathrm{A}^-\right)_n + \mathrm{e}^-$$

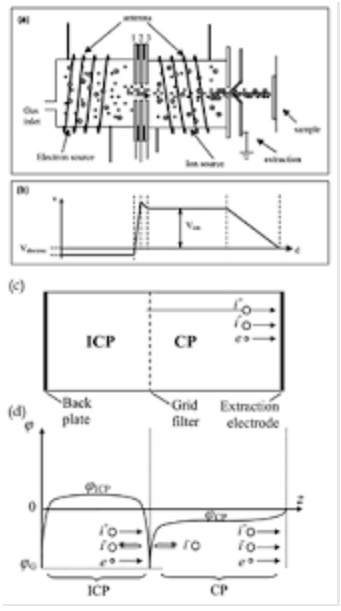




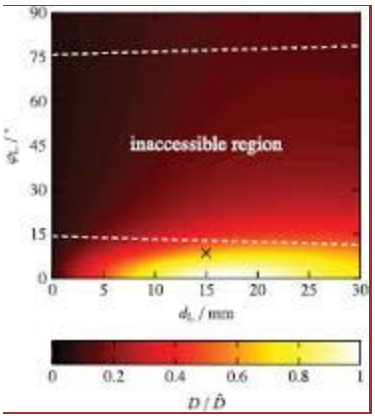


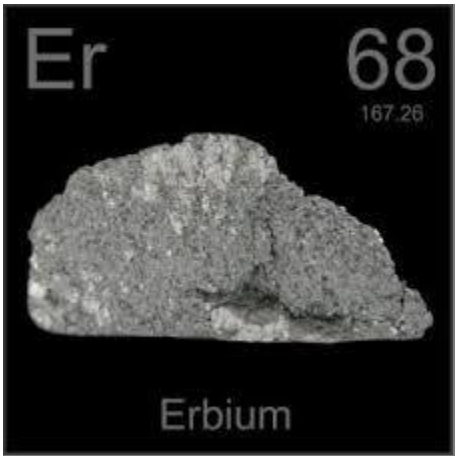


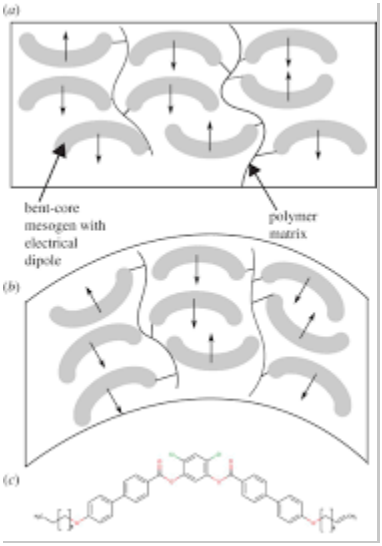


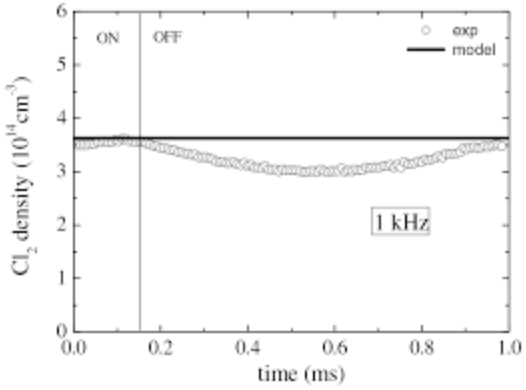


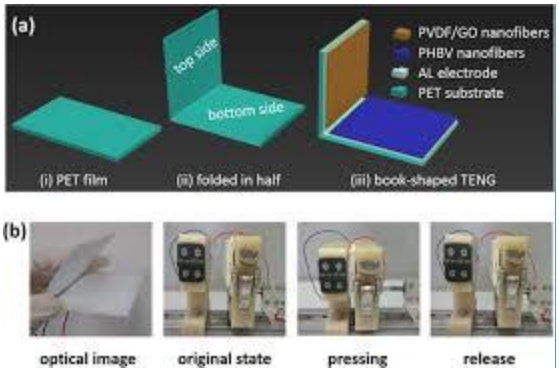










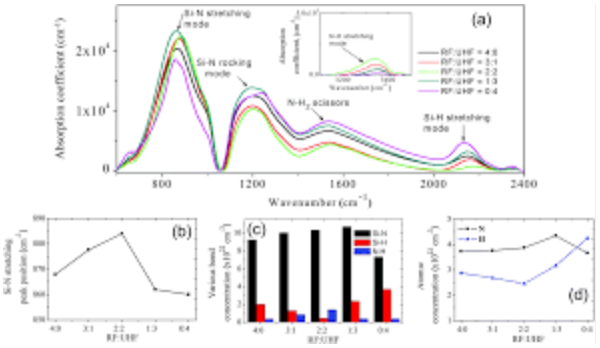




$$12)\quad \mathbf{j}_g = \sigma_1 \mathbf{E} + \sigma_g \dot{\mathbf{E}}_g + \mathbf{v}\rho_g$$

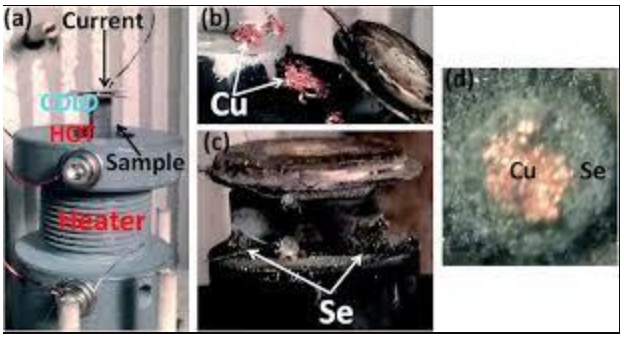
$$13)\quad \mathbf{D}_g = \varepsilon_g \varepsilon_{g0} \mathbf{E}_g + \varepsilon_1 \mathbf{E}$$

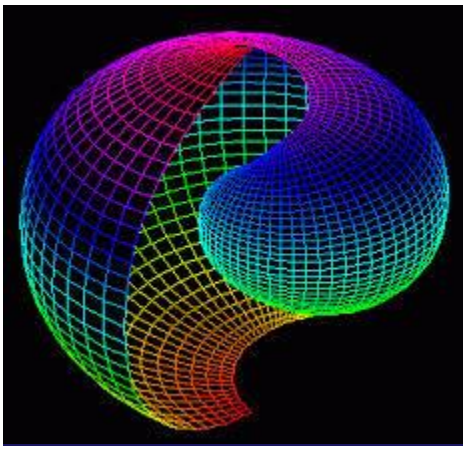
$$14)\quad \mathbf{B}_g = \mu_g \mu_{g0} \mathbf{H} + \mu_1 \mathbf{H}$$

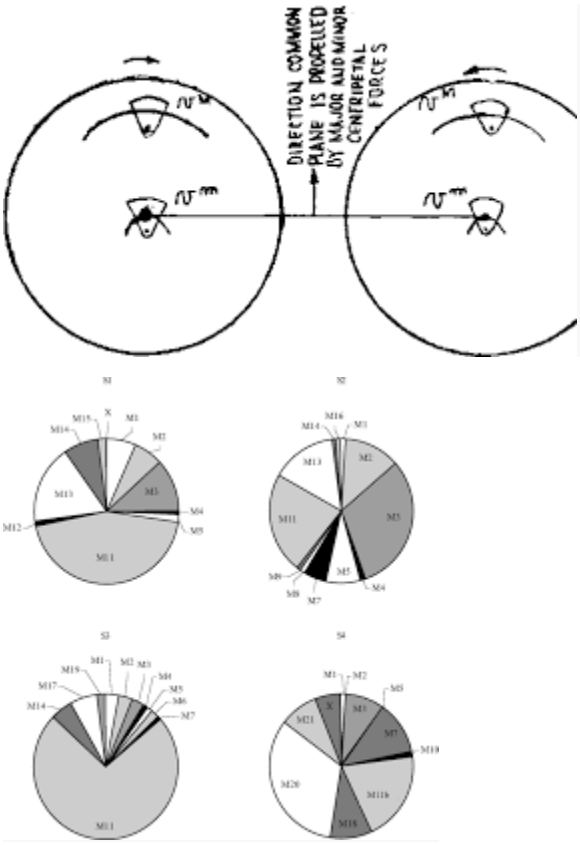










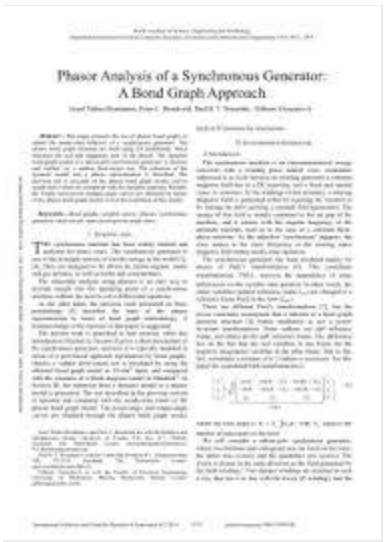




$$5) \quad \mathbf{j} = \sigma \mathbf{E} + \sigma_1 \mathbf{E}_g + \mathbf{v}\rho$$

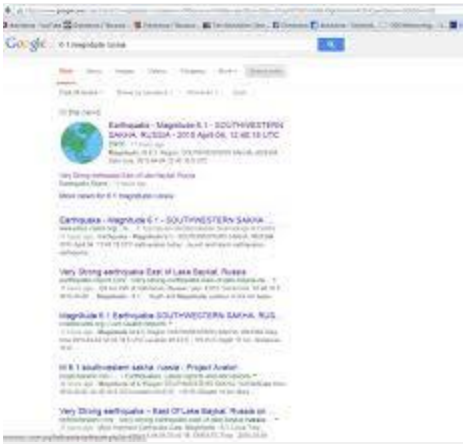
$$6) \quad \mathbf{D} = \varepsilon \varepsilon_0 \mathbf{E} + \varepsilon_1 \mathbf{E}_g$$

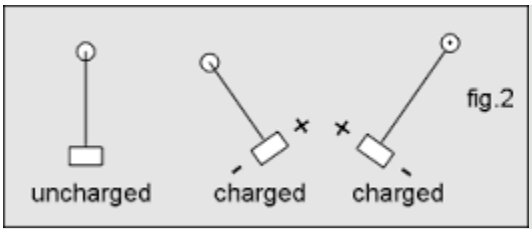
$$7) \quad \mathbf{B} = \mu \mu_0 \mathbf{H} + \mu_1 \mathbf{H}_g$$

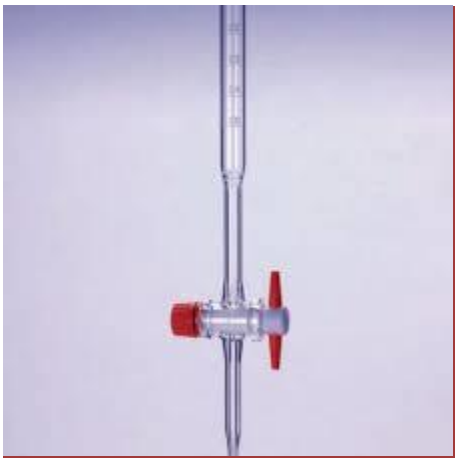


Phasor Analysis of a Synchronous Generator: A Bond Graph Approach





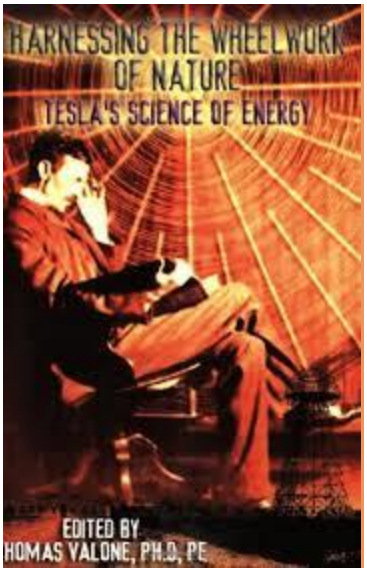




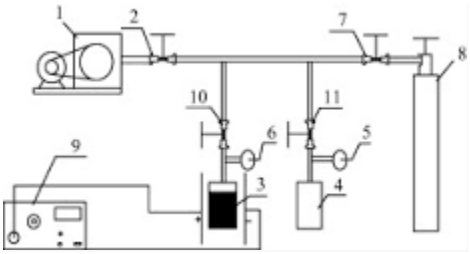


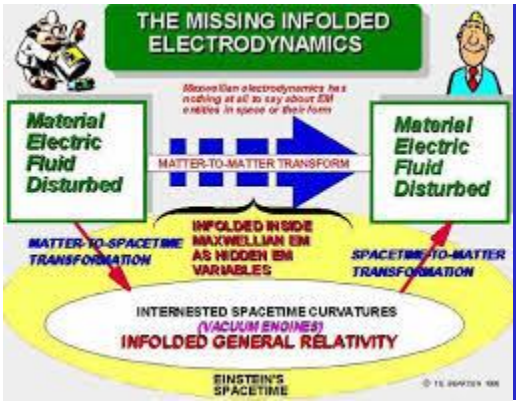
1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____
7. _____ 8. _____
9. _____ 10. _____
11. _____ 12. _____
13. _____ 14. _____
15. _____ 16. _____
17. _____ 18. _____
19. _____ 20. _____

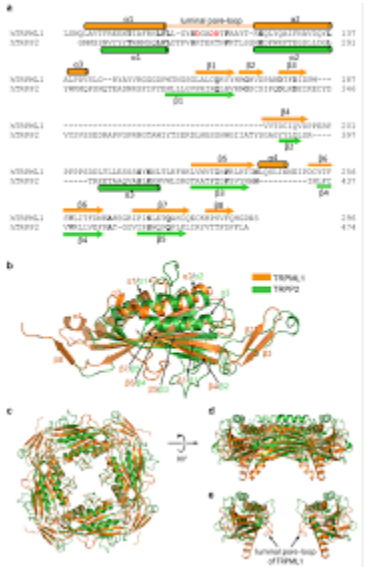


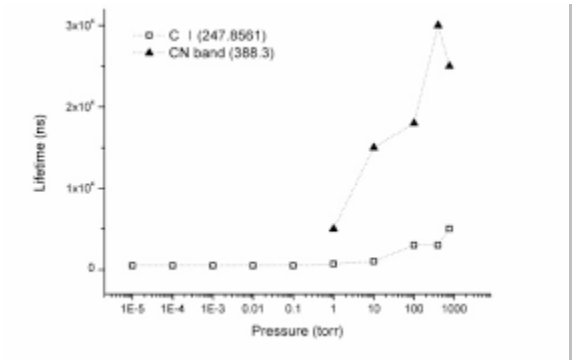

HARNESSING THE WHEELWORK OF NATURE
TESLA'S SCIENCE OF ENERGY
EDITED BY
HOMAS VALONE, PH.D, PE




1
2
7
8
10
11
6
5
9
3
4

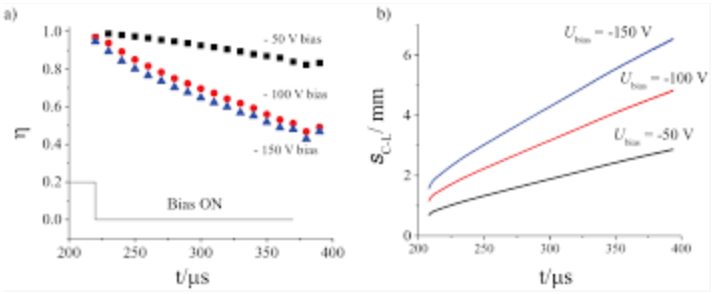

THE MISSING INFOLDED ELECTRODYNAMICS
Material Electric Fluid Disturbed
MATTER-TO-MATTER TRANSFORM
Material Electric Fluid Disturbed
MATTER-TO-SPACETIME TRANSFORMATION
INFOLDED INSIDE MAXWELLIAN EM AS HIDDEN EM VARIABLES
SPACETIME-TO-MATTER TRANSFORMATION
INTERNESTED SPACETIME CURVATURES
(VACUUM ENGINES)
INFOLDED GENERAL RELATIVITY
EINSTEIN'S SPACETIME

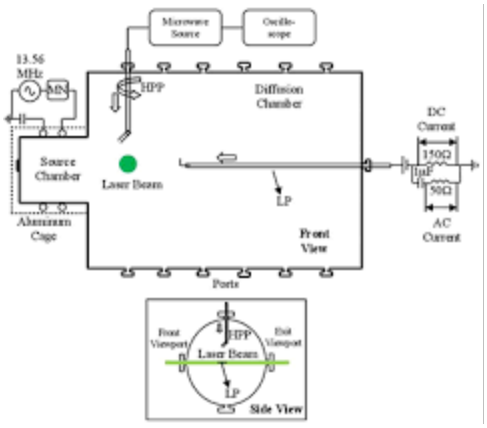


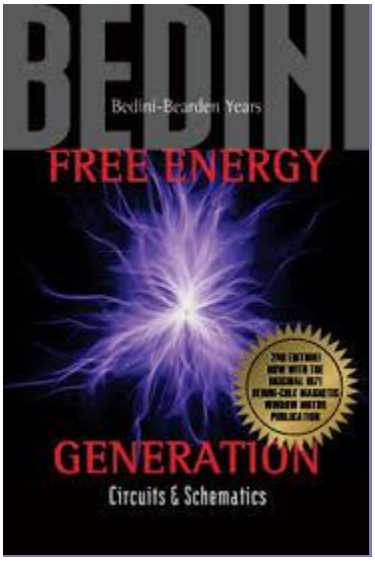

C I (247.8561)
CN band (388.3)
Lifetime (ns)
Pressure (torr)

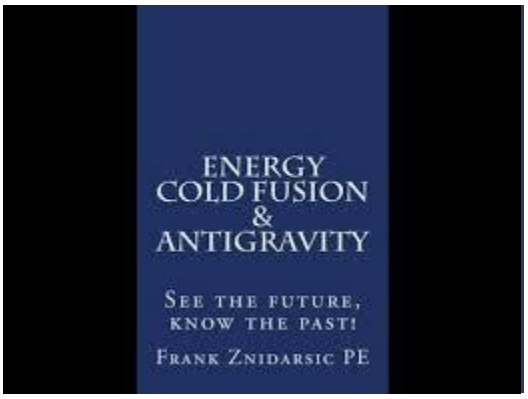


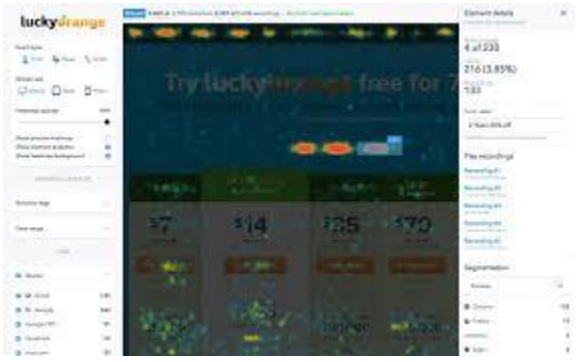

2 Pack Silver Alkaline Energ...
12% OFF


a)
b)
- 50 V bias
- 100 V bias
- 150 V bias
Bias ON
η
t/µs
U_{bias} = -150 V
U_{bias} = -100 V
U_{bias} = -50 V
S_{C-L} / mm
t/µs

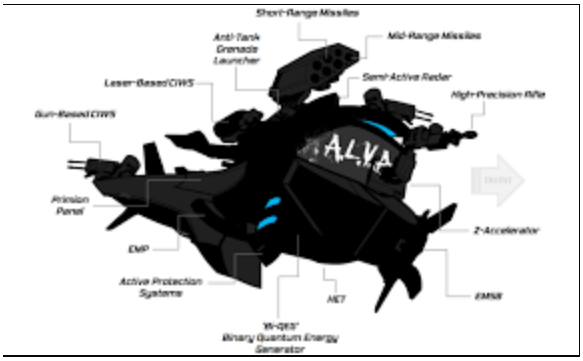

Microwave Source
Oscilloscope
13.56 MHz
MN
HPP
Diffusion Chamber
DC Current
150Ω
1µF
50Ω
AC Current
Source Chamber
Laser Beam
LP
Aluminum Cage
Front View
Ports
Front Viewport
HPP
Laser Beam
LP
Exit Viewport
Side View

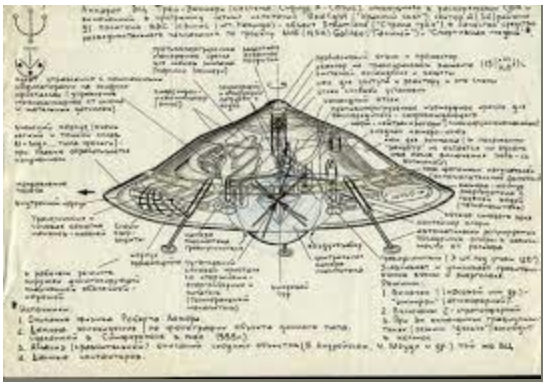

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GENERATION
Circuits & Schematics


ENERGY
COLD FUSION
&
ANTIGRAVITY
See the future,
know the past!
Frank Znidarsic PE

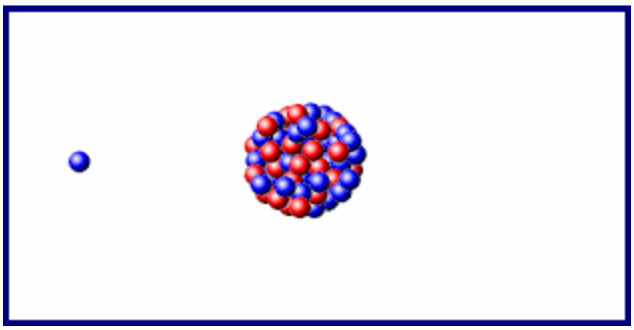

luckyorange




Short-Range Missiles
Anti-Tank Grenade Launcher
Mid-Range Missiles
Laser-Based CIWS
Semi-Active Radar
High-Precision Rifle
Gun-Based CIWS
Z-Accelerator
EMW
Active Protection Systems
HET
EMNR
Yi-QES Binary Quantum Energy Generator

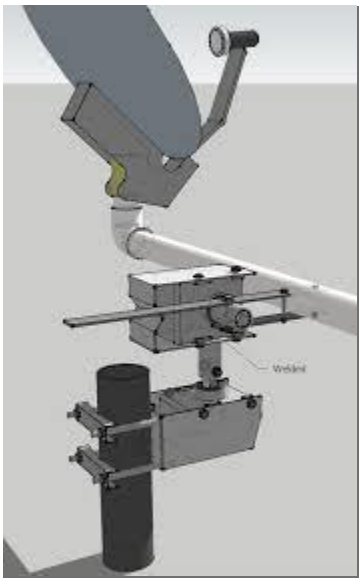


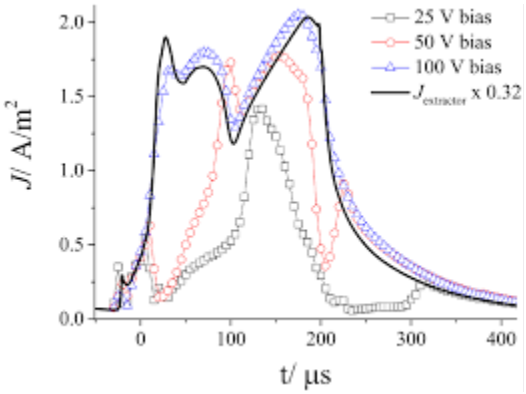




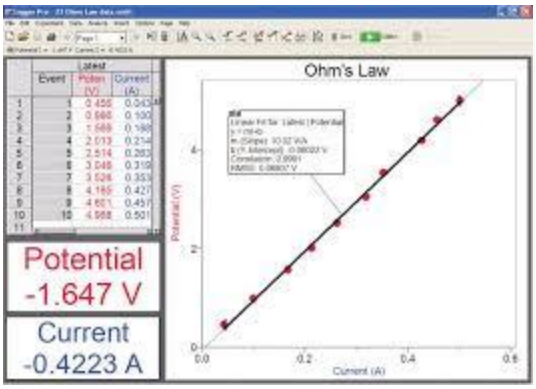




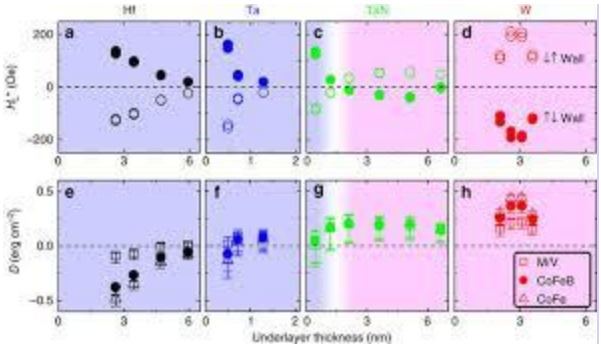


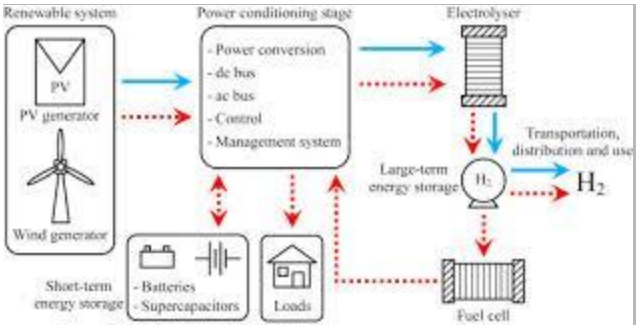

25 V bias
50 V bias
100 V bias
$J_{extracter}$ x 0.32
J/ A/m^2
t/ µs
2.0
1.5
1.0
0.5
0.0
0
100
200
300
400



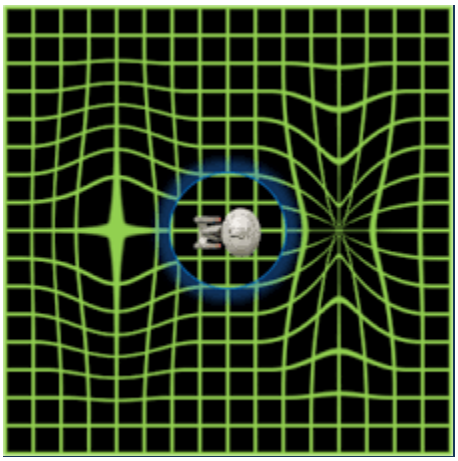

Ohm's Law
Potential
-1.647 V
Current
-0.4223 A
Potential (V)
Current (A)

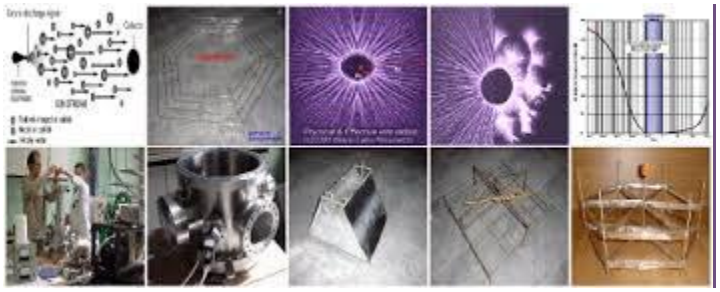



Hf
Ta
TaN
W
a
b
c
d
e
f
g
h
↓↑ Wall
↑↓ Wall
MV
CoFeB
CoFe
H_c^+ (Oe)
D (erg cm^{-2})
Underlayer thickness (nm)


Renewable system
Power conditioning stage
Electrolyser
PV
PV generator
Wind generator
- Power conversion
- dc bus
- ac bus
- Control
- Management system
Transportation, distribution and use
Large-term energy storage
H_2
H_2
Short-term energy storage
- Batteries
- Supercapacitors
Loads
Fuel cell

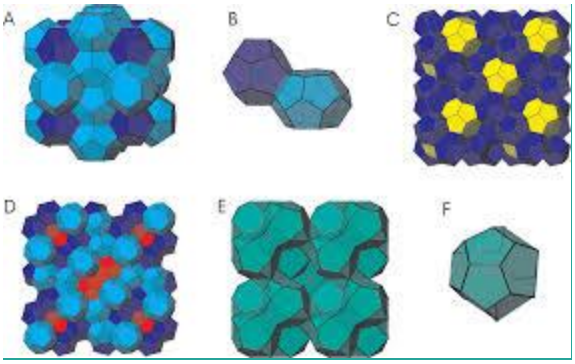


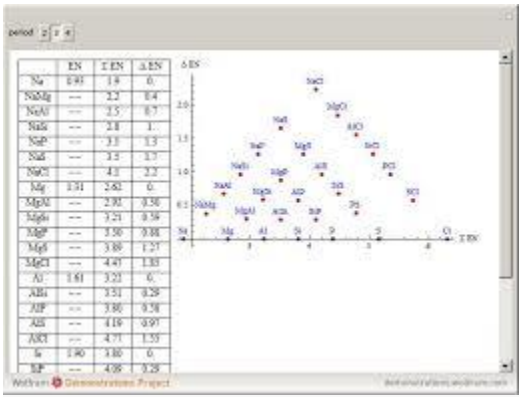





The Thomas Mortlock Family
Generation 1
Generation 2
Generation 3


0:18 / 0:38
360p

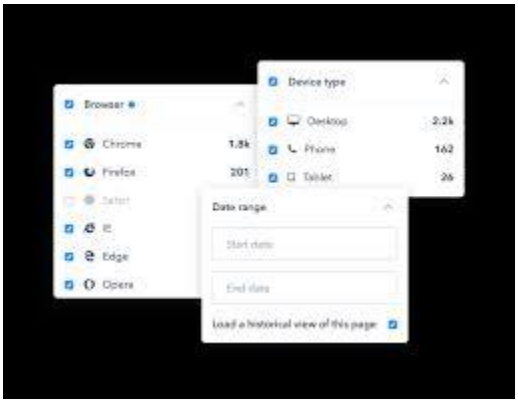

A
B
C
D
E
F


period
EN
Σ EN
Δ EN
Δ EN
Σ EN
Wolfram Demonstrations Project

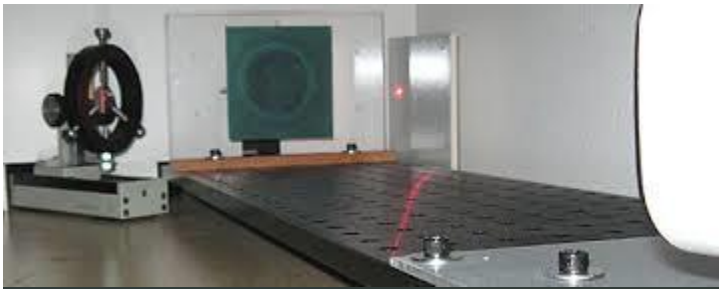

Lockheed Martin/Boeing
RQ-36 DarkStar


TACTICAL
TACTICAL ANALYSIS:
SELECTING
APPROPRIATE WEAPONS...

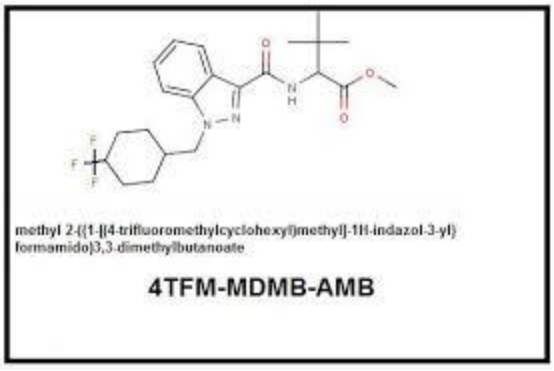



Device type
Desktop
2.2k
Phone
162
Tablet
26
Browser
Chrome
1.8k
Firefox
201
Edge
Opera
Date range
Start date
End date
Load a historical view of this page





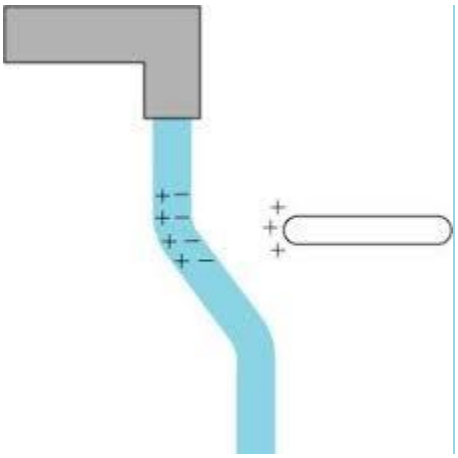

BEST EXERCISES
TARGETING EACH MUSCLE GROUP


methyl 2-({1-[(4-trifluoromethylcyclohexyl)methyl]-1H-indazol-3-yl}
formamido)3,3-dimethylbutanoate
4TFM-MDMB-AMB


Tesla Coil 50000 Volt Electricity


PHYSICS OF
WAVE
PHENOMENA
ALLERTON PRESS, INC.



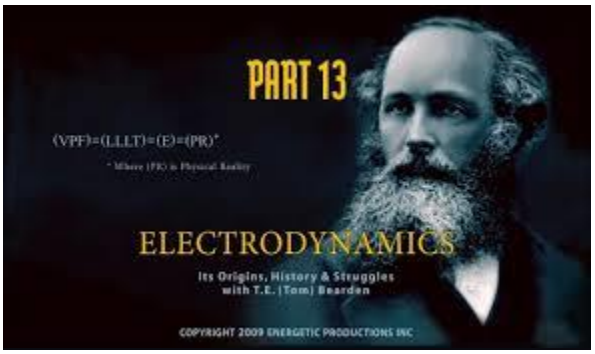







The Rambaut's Experiment
by JL Naudin - 11/19/07




PART 13
(VPF)=(LLLT)=(E)=(PR)*
ELECTRODYNAMICS
Its Origins, History & Struggles
with T.E. (Tom) Bearden
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Infolded Engines: Excluded by Present Physics

- *The infolded dynamics of EM systems are not considered in general relativity, electromagnetics, or quantum mechanics*
- *None of these disciplines include such spacetime curvature engines (vacuum engines)*
- *Thus GR, EM, and QM cannot be unified, since ST curvature engines are where the unification mainly occurs*

© 1999 T. E. BEARDEN

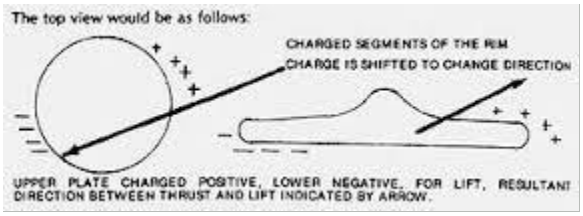


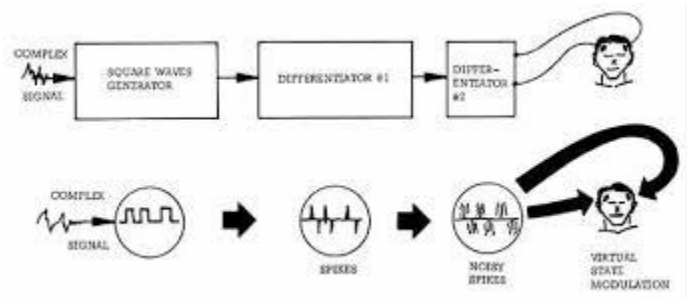
Compressed Air, Flywheels and Batteries

Nabil Reza





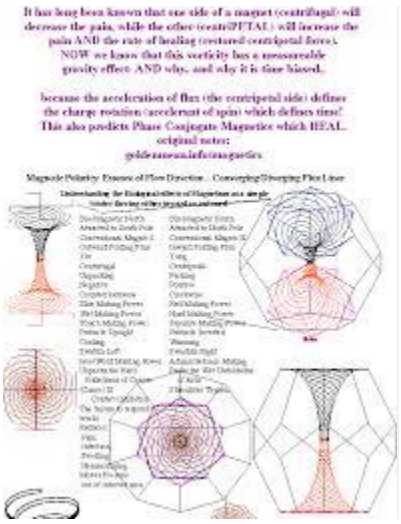






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- AC generator and transformer.

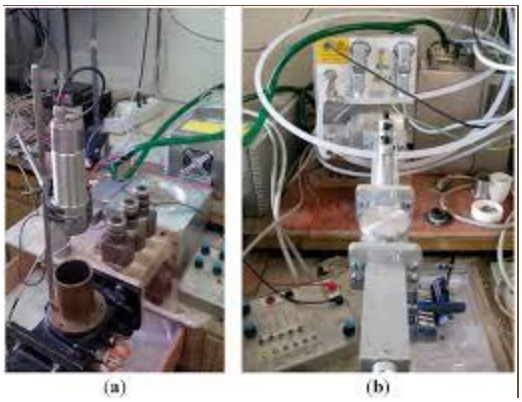
UNIT V: Electromagnetic Waves

- Need for displacement current.
- Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.
- Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

UNIT VI: Optics

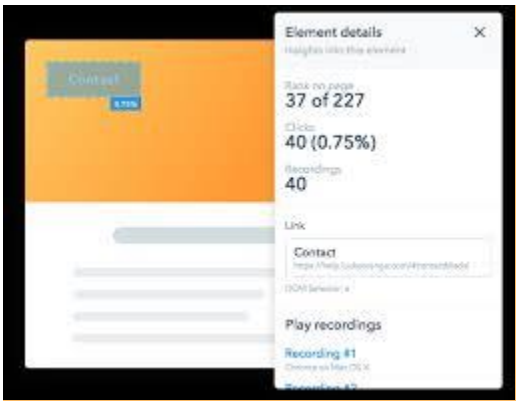
- Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact combination of a lens and a mirror. Refraction and dispersion of light through a prism.

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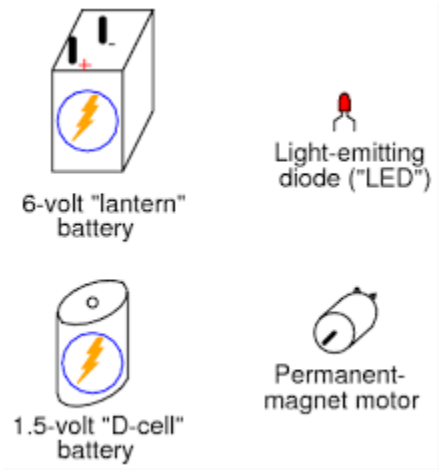


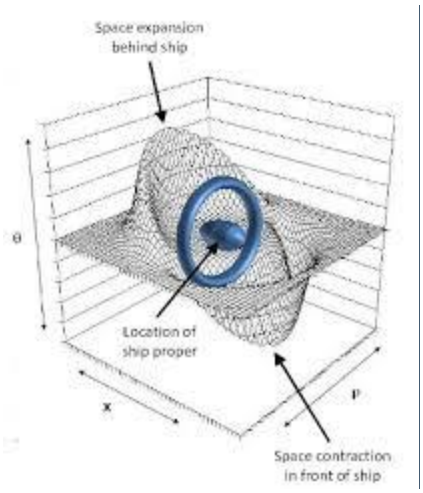
(a) (b)







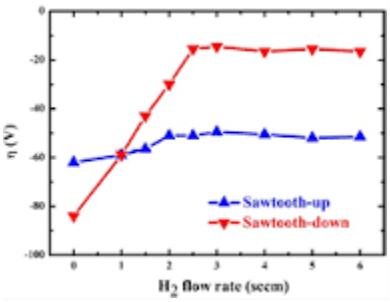


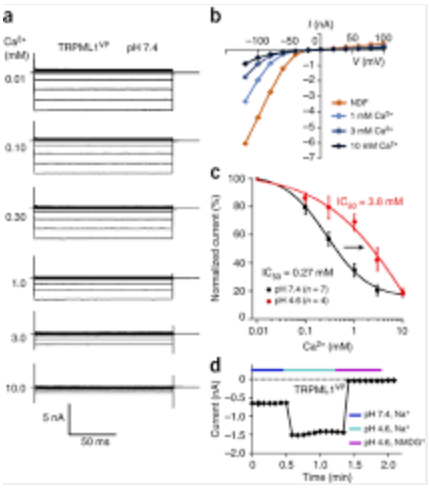


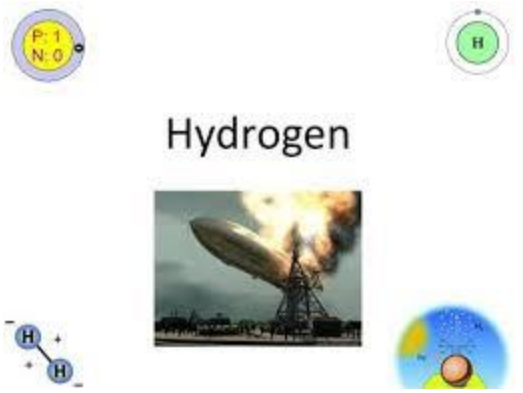


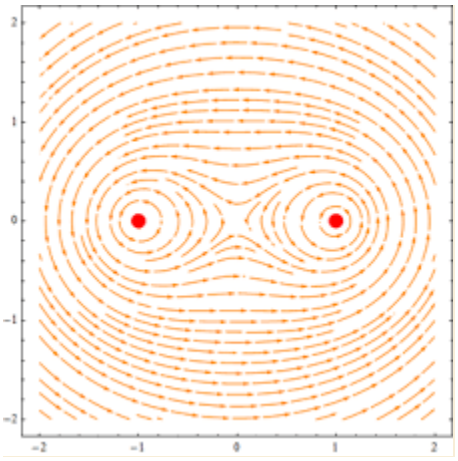




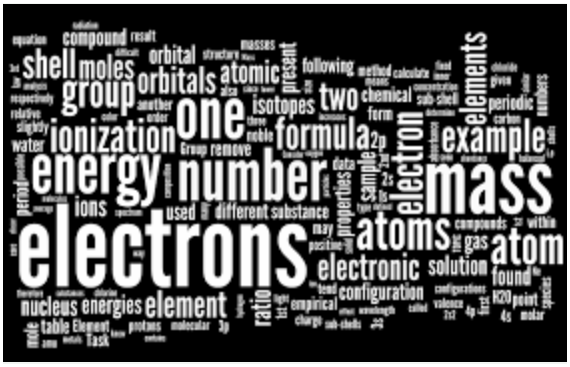

η (V)
Sawtooth-up
Sawtooth-down
H2 flow rate (sccm)

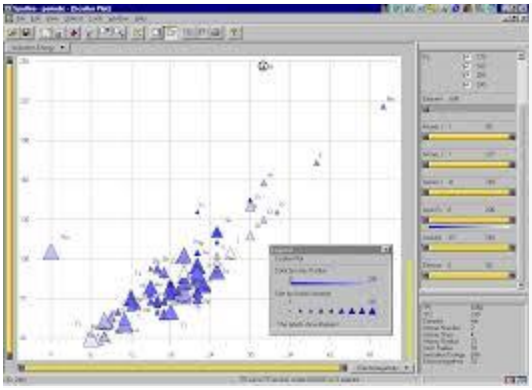

a
b
c
d
TRPML1VP
pH 7.4
Normalized current (%)
Time (min)


P: 1
N: 0
H
Hydrogen




HHO Generator or Joe Cell construction

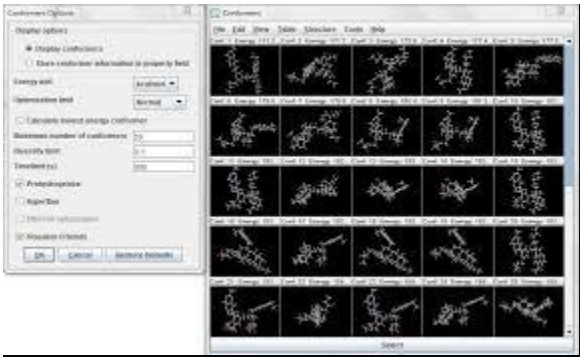

energy
number
electrons
mass
atoms
ionization
formula
example
element
shell
moles
orbitals
group
one
two
electronic
configuration
nucleus
energies
element
atom

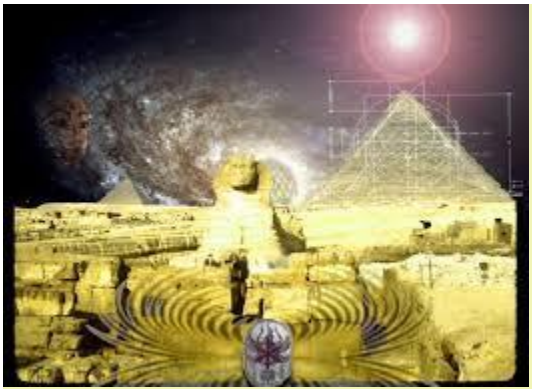
















strive COMICS

Ferrites can be divided into two families based on their magnetic coercivity, their resistance to being demagnetized.

Soft Ferrites:

Soft ferrites, are materials which are easy to magnetize or demagnetize i.e. materials with low coercive field strengths and thus so that they can reverse the direction in alternating fields without dissipating much energy since the area of B-H (or M-H) loop is small, while the material's high resistivity prevents eddy currents in the core, another source of energy loss.

Because of their comparatively low losses at high frequencies, they are extensively used in the cores of RF transformers and inductors in applications such as switched-mode power supplies and loopstick antennas used in AM radios.



TRENDS IN THE PERIODIC TABLE

Objectives: the student will be able to

a) define some of the basic properties of the periodic table,
b) graph these properties of the elements (especially the first 20)
c) determine the important trends (patterns) on the periodic table.

Procedure

1. Define the following terms:
 a) First ionization energy
 b) Atomic Radius
 c) Electronegativity
 d) Atomic Number

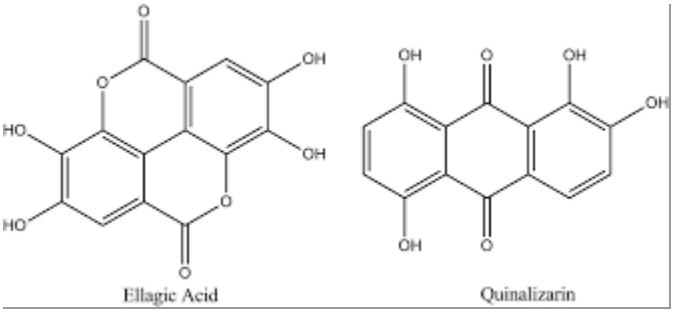
2. Obtain 3 pieces of graph paper, from your favorite elementary teacher.

3. On the first piece, plot a graph of ionization energy (y axis) vs. atomic number (x-axis). Connect successive data with straight lines.

4. On the second piece of graph paper, plot a separate graph of atomic radius (y-axis) vs. atomic number (x-axis). Connect successive data with straight lines.

5. On the third piece of graph paper, plot a separate graph of electronegativity (y axis) vs. atomic number (x-axis). Connect successive data with straight lines.

ATOMIC NUMBER	ATOMIC SYMBOL	FIRST IONIZATION ENERGY(KJ/MOL)	ATOMIC RADIUS(PM)	ELECTRONEGATIVITY



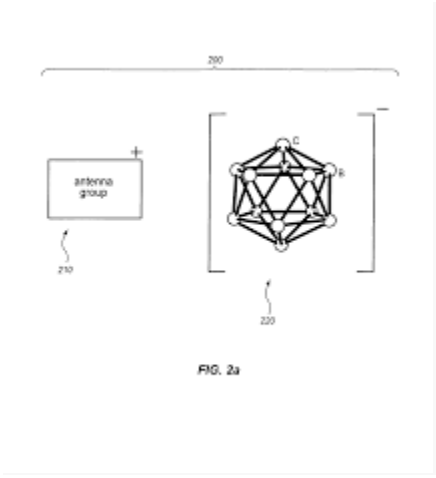
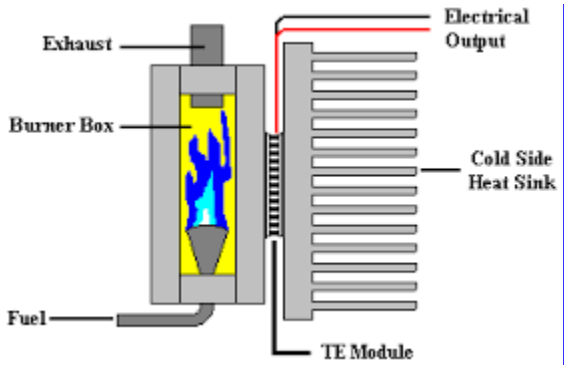
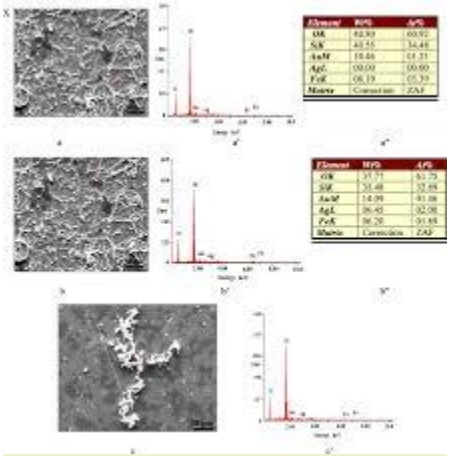


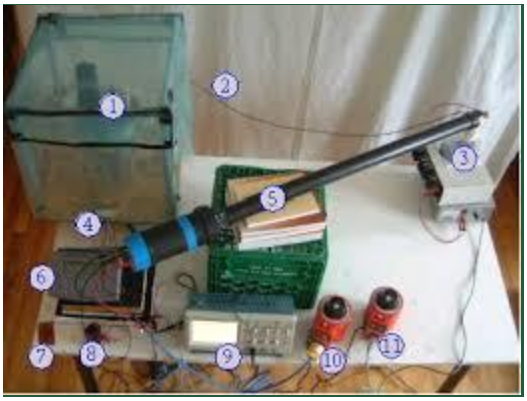
FIG. 2a















CERAMIC MATERIALS



Dr. Madhavrao K. Deore
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Nashik, -422206, India
deoremadhav63@gmail.com

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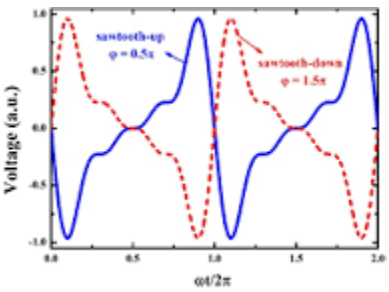
ii) Structural classification indicating to structural criteria

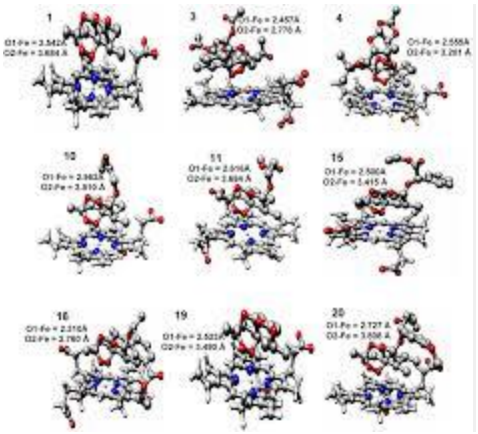
Group	Example
Crystalline ceramics	• Single phase MgO(Magnesium Oxide) is used as insulation material in heating elements and cables. • Aluminium Oxide • Beryllium Oxides • Boron Carbide • Tungsten Carbide.
Non Crystalline	Natural and synthetic inorganic glasses
Glass bounded ceramics	Fixed clay product crystalline phases are held in glass matrix
Cement	Crystalline or noncrystalline phases

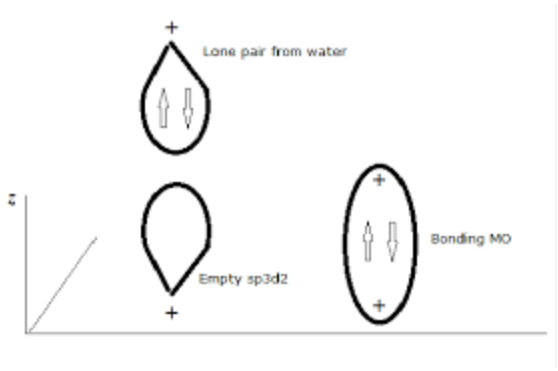


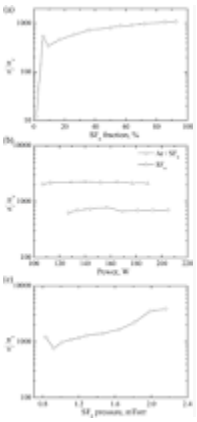
Data Storage (Magnetic Recording Tapes and Hard Disks):
In the magnetic tapes, elongated 0.2-.5 μm long hard magnetic oxide particles of γ -Fe_2O_3 are embedded in nonmagnetic binder. The particles have single domains magnetized along their major axes which are aligned in the plane of the tape. The coercive fields are typically between 50-100 kA.m-1. In magnetic hard-disks, core element is produced by forming several layers of materials (nonmagnetic underlayer, magnetic layer, overcoat, plus layer of lubricants on a nonmagnetic disk substrate). Here, the read/write head is not in direct contact with the hard disk (in contrast to floppy disk) due to an air bearing (~ 50 nm); air flow is caused by the relative velocity between disk and head. These memories have high storage density of about 10 GB.in-2 and short access time.
Early computer memories stored data in the residual magnetic fields of hard ferrite cores,which were assembled into arrays of core memory. Ferrite powders are used in the coatings of magnetic recording tapes. One such type of material is iron (II) oxide.
Absorbing Materials:
In stealth aircrafts, ferrite particles are used as a component of radar-absorbing materials or coatings and in the absorption tile lining in the rooms used for electromagnetic compatibility measurements.
Microwave Applications in the Frequency Ranges of 1-300 GHz:
Materials like Mg-ferrites, Li-doped Ferrites and garnets are used for such applications such as phase shifters, circulators and isolators.





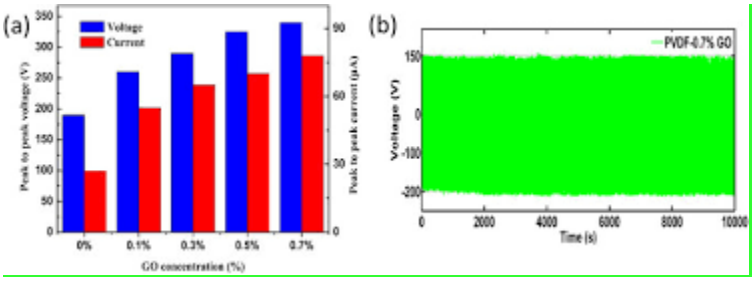


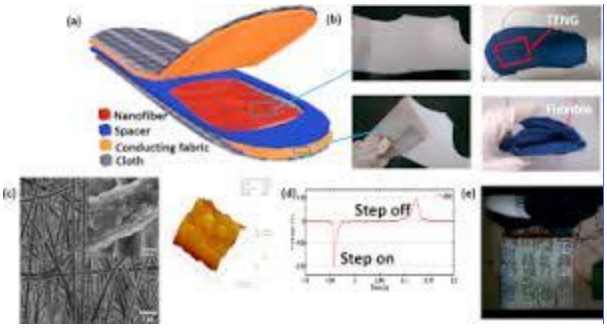

Lone pair from water
Empty sp3d2
Bonding MO



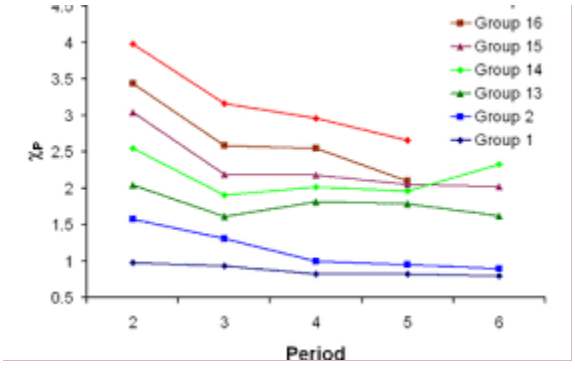


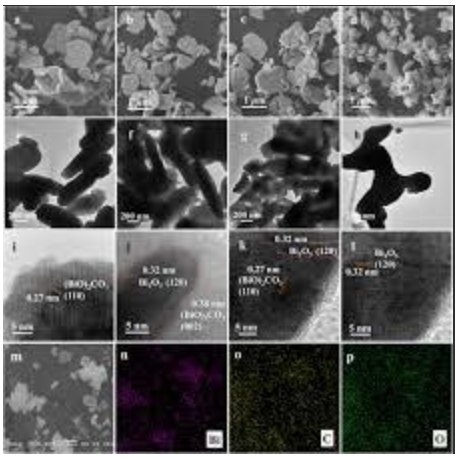

strive
COMICS


(a)
Voltage
Current
Peak to peak voltage (V)
Peak to peak current (μA)
0%
0.1%
0.3%
0.5%
0.7%
GO concentration (%)
(b)
PVDF-0.7% GO
Voltage (V)
Time (s)


(a)
(b)
TENG
Flexible
Nanofiber
Spacer
Conducting fabric
Cloth
(c)
(d)
Step off
Step on
(e)

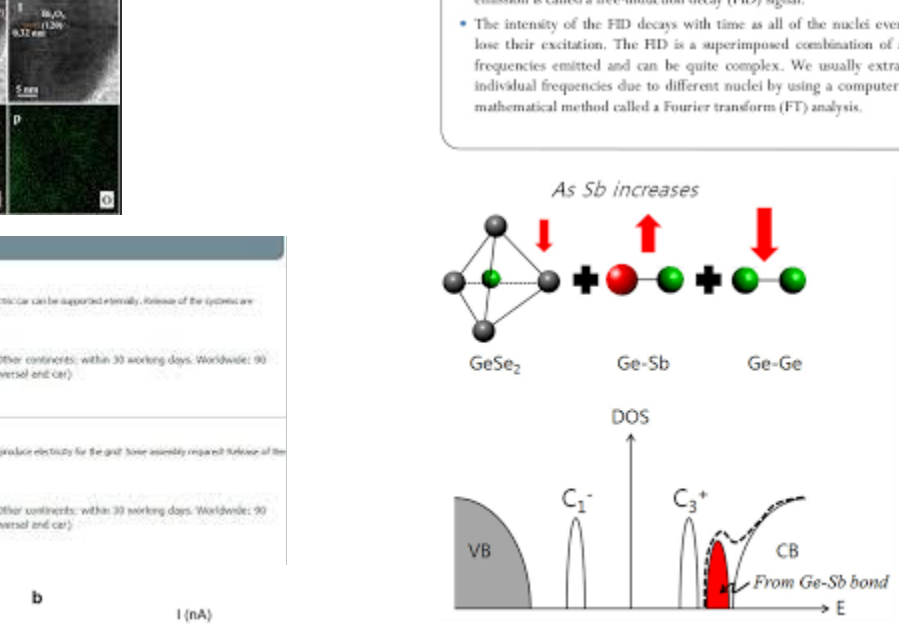

reaction
change
enthalpy
energy
one
temperature
bond
heat
bonds
another
standard
Enthalpy
kJ
positive
values
two
reactions
substance
reactants
products
negative
value
absolute

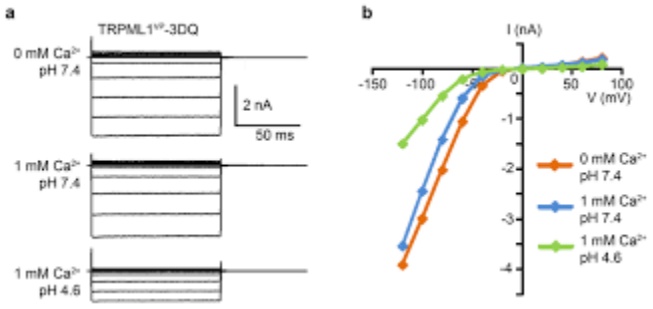

Group 16
Group 15
Group 14
Group 13
Group 2
Group 1
χP
Period

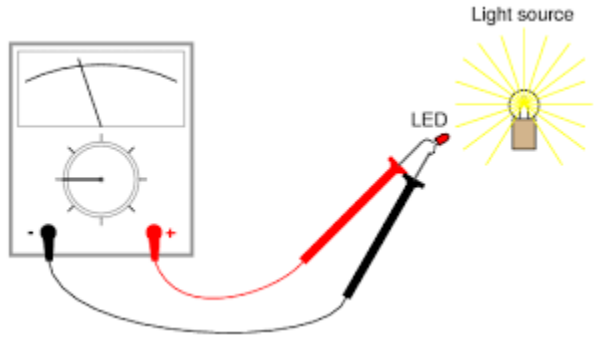


- The pulse actually contains a range of frequencies centered about the fundamental. This range of frequencies is great enough to excite all of the distinct types of hydrogens in the molecule at once with this single burst of energy.
- When the pulse is discontinued, the excited nuclei begin to lose their excitation energy and return to their original spin state, or relax. As each excited nucleus relaxes, it emits electromagnetic radiation.
- Since the molecule contains many different nuclei, many different frequencies of electromagnetic radiation are emitted simultaneously. This emission is called a free-induction decay (FID) signal.
- The intensity of the FID decays with time as all of the nuclei eventually lose their excitation. The FID is a superimposed combination of all the frequencies emitted and can be quite complex. We usually extract the individual frequencies due to different nuclei by using a computer and a mathematical method called a Fourier transform (FT) analysis.



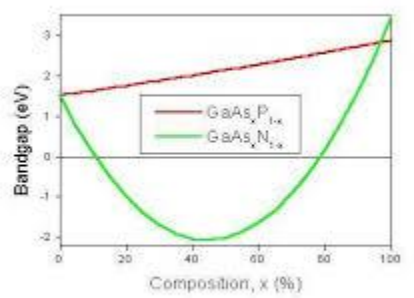






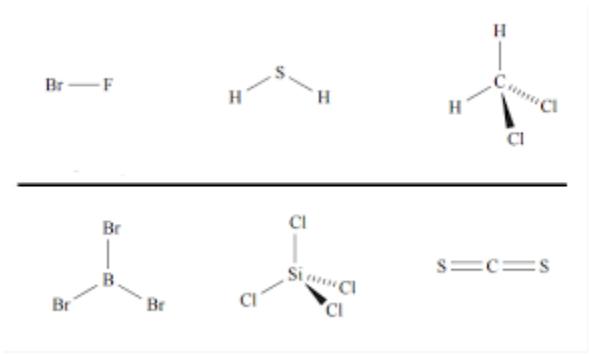




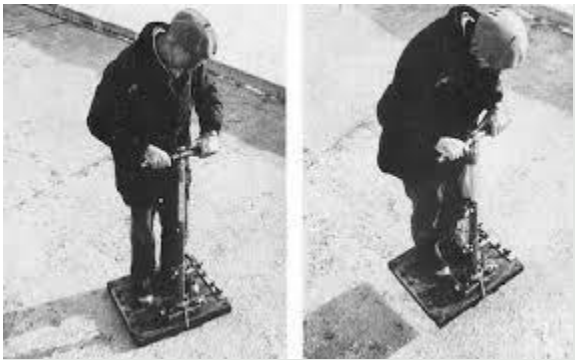



How to Make
THE PERFECT SALAD
BASE
+ SOMETHING CRUNCHY
+ SOMETHING SOFT
+ SOMETHING UNEXPECTED
+ PROTEIN
+ DRESSING

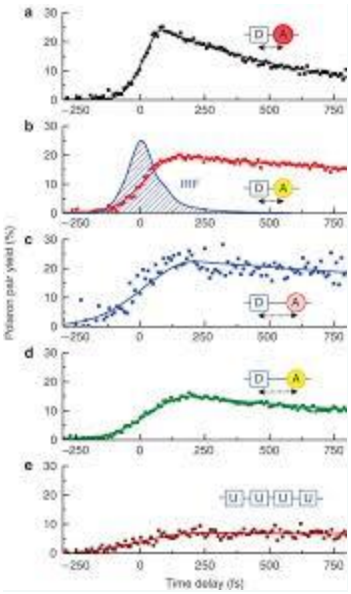


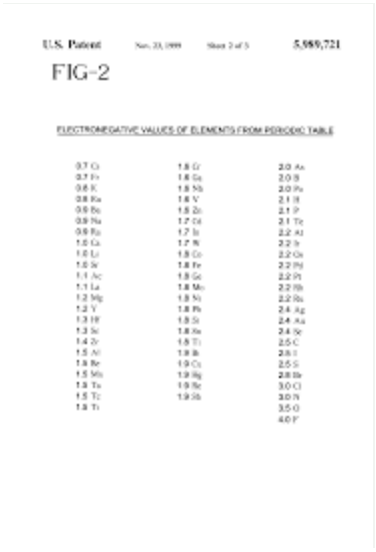

Br — F
H S H
H C Cl H Cl
Br B Br Br
Cl Si Cl Cl Cl
S = C = S

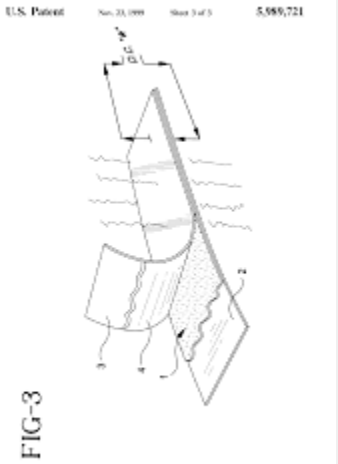

100% Juice
GRAPE
APPLE
FOOD CHEMISTRY:
TURN JUICE INTO NOODLES!

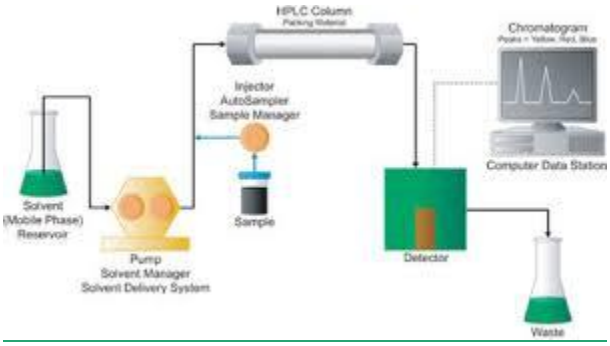




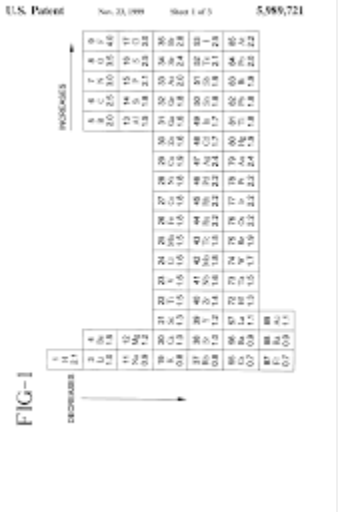






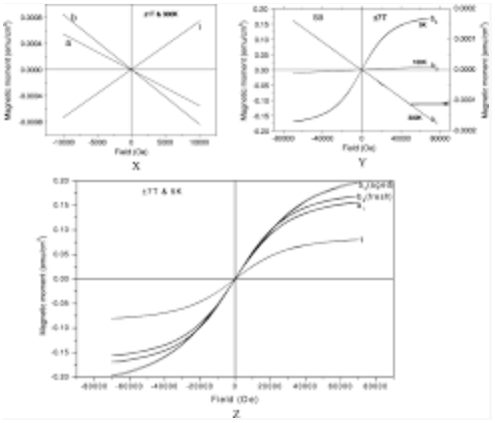


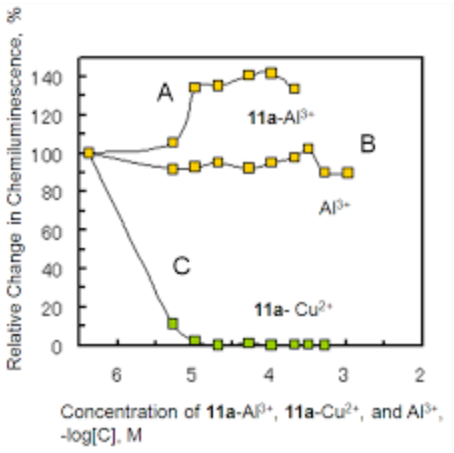




INTRODUCTION

- The *p*-block elements are placed in groups
 13 - 18 .
- The general electronic configuration is $ns^2 np^{1-6}$.
- The groups included in the syllabus are 15, 16, 17 and 18.





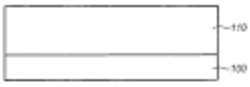


FIG. 1a



FIG. 1b

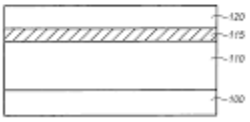
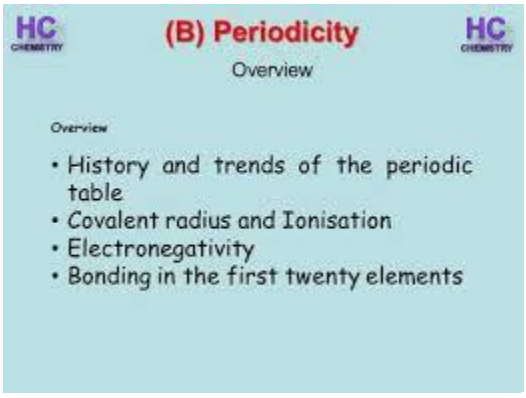
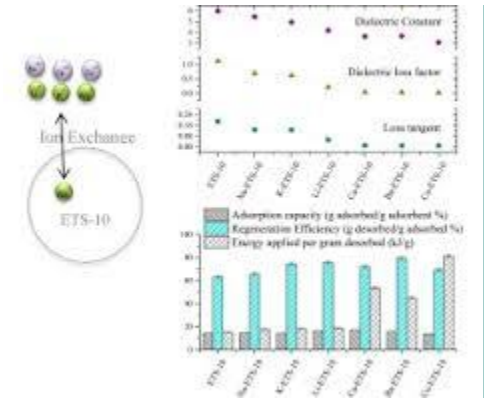


FIG. 1c







CHAPTER 1 ATOMIC STRUCTURE AND BONDING

1.1 What is the mass in grams of (a) a proton, (b) a neutron, and (c) an electron?

(a) mass of proton = 1.675×10^{-24} g (b) mass of neutron = 1.675×10^{-24} g

(c) mass of electron = 9.109×10^{-28} g

1.2 What is the electric charge in coulombs of (a) a proton, (b) a neutron, and (c) an electron?

(a) proton charge = $+1.602 \times 10^{-19}$ C (b) neutron charge = 0 C

(c) electron charge = -1.602×10^{-19} C

1.3 Define (a) atomic number, (b) atomic mass unit, (c) Avogadro's number, and (d) relative gram atomic mass.

(a) The atomic number is the number of protons contained in the nucleus of an atom.

(b) An atomic mass unit, u, is defined as exactly 1/12 of the mass of the carbon atom which has a mass of 12 u.

(c) Avogadro's number, N_A, is 6.02×10^{23} atoms/mol.

(d) The relative gram atomic mass of an element is the mass in grams of 6.023×10^{23} atoms of that element.

1.4 What is the mass in grams of two atoms of gold?

$$x = \text{mass of 1 Au atom} = \frac{196.97 \text{ g/mol Au}}{6.02 \times 10^{23} \text{ atoms/mol}} = (2 \text{ atoms}) = 3.27 \times 10^{-22} \text{ g Au}$$

1.5 How many atoms are there in 1 g of gold?

$$x = \text{No. of atoms of Au} = \frac{6.02 \times 10^{23} \text{ atoms/mol}}{196.97 \text{ g/mol Au}} = (1 \text{ g Au}) = 3.06 \times 10^{21} \text{ atoms Au}$$

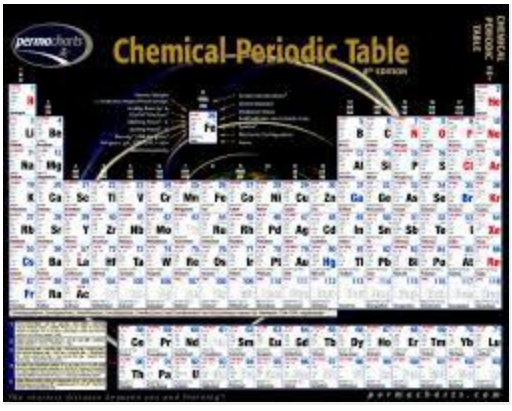
1.6 A gold wire is 0.75 mm in diameter and 0.5 m in length. How many atoms does it contain? The density of gold is 19.3 g/cm³.

First determine the mass of gold based upon the wire volume and the density of gold.

$m = \text{mass of Au} = \rho V$ where $\rho = 19.3 \text{ g/cm}^3$

and

Guide Foundations of Materials Science and Engineering Solutions Manual 1





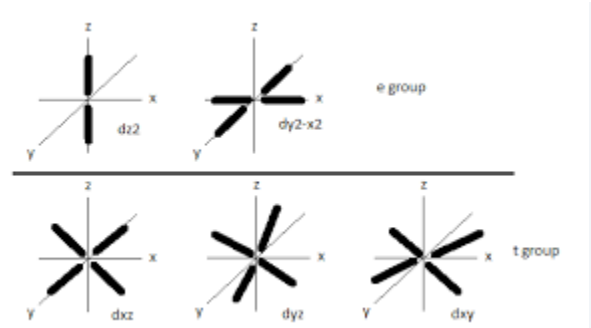

Chemistry Unit
For Middle School

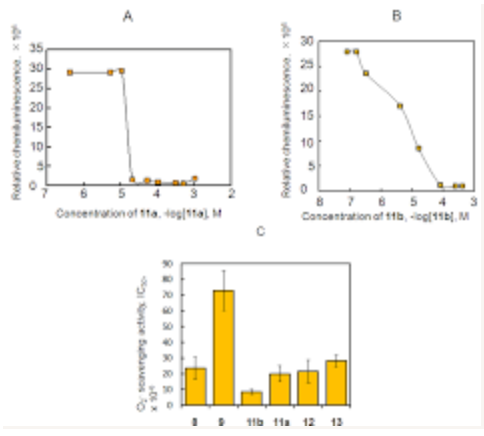


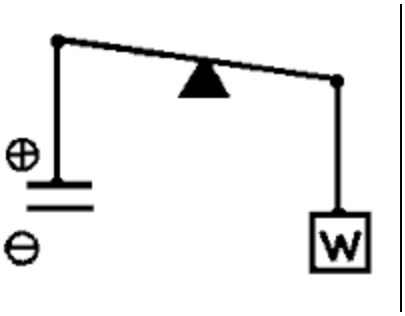







z
x
y
dz2
dy2-x2
e group
dxz
dyz
dxy
t group

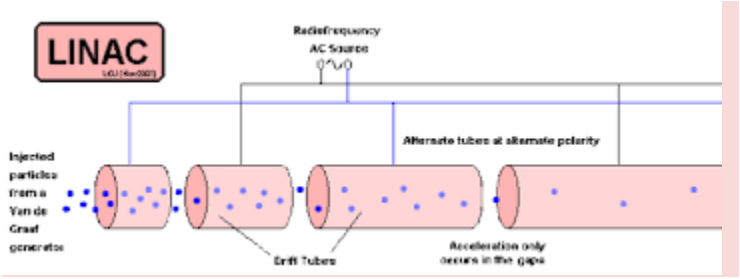

A
B
C
Concentration of 11a, -log[11a], M
Concentration of 11b, -log[11b], M
8
9
11b
11a
12
13

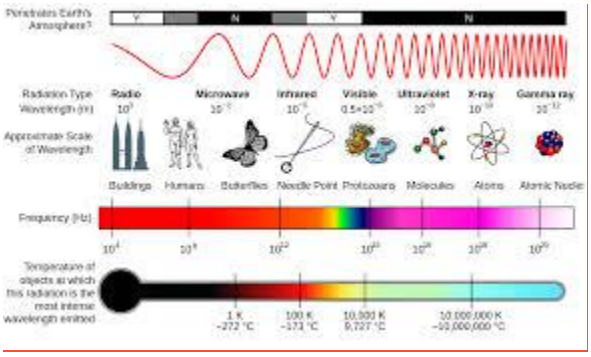

⊕
⊖
W

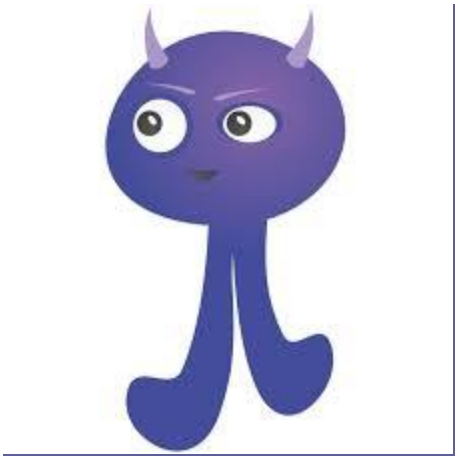

Keys to a Successful
Science Interactive
Notebook
1 Introduce topics by asking a
2 Deliver information using a strategy.
3 Encourage students to use color to highlight key vocab and text.
4 Apply new information immediately.
5 Use a variety of
order to reach all the different learning styles.
6 Use
check for understanding.
7 Set aside some
for students to work on interactive notebook activity.
8 Have students share notebooks with peers and parents.

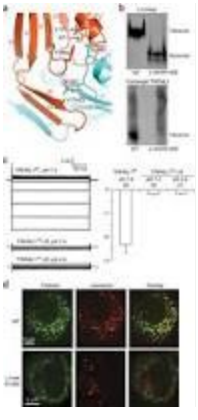

Bezpretensjonalna komedia
TO TYLKO CHEMIA
ALFONSO ALBACETE
NOiSE HQ XVID

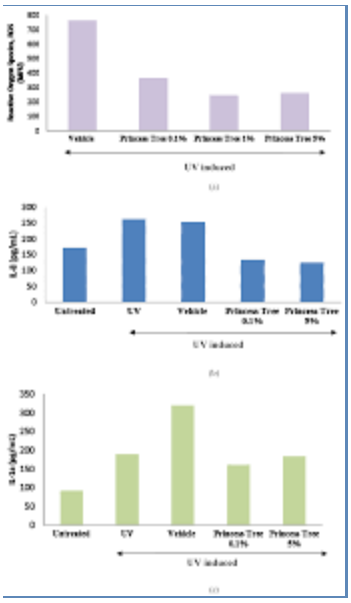

FOX
13

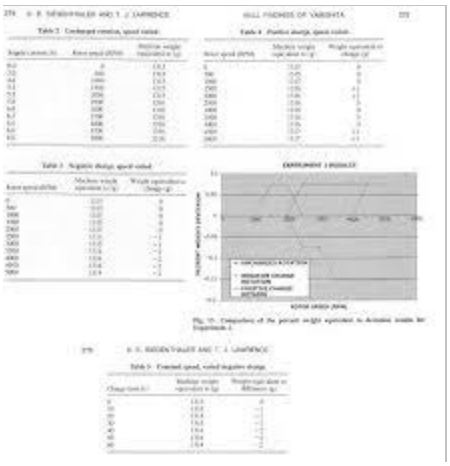

LINAC
Radiofrequency
AC Source
Alternate tubes at alternate polarity
Injected particles from a Van de Graaf generator
Drift Tubes
Acceleration only occurs in the gaps


Penetrates Earth's Atmosphere?
Y
N
Y
N
Radiation Type
Wavelength (m)
Radio
Microwaves
Infrared
Visible
Ultraviolet
X-ray
Gamma ray
Approximate Scale of Wavelength
Buildings
Humans
Butterflies
Needle Point
Protozoans
Molecules
Atoms
Atomic Nuclei
Frequency (Hz)
Temperature of objects at which this radiation is the most intense wavelength emitted
1 K
-272 °C
100 K
-173 °C
10,000 K
9,727 °C
10,000,000 K
~10,000,000 °C





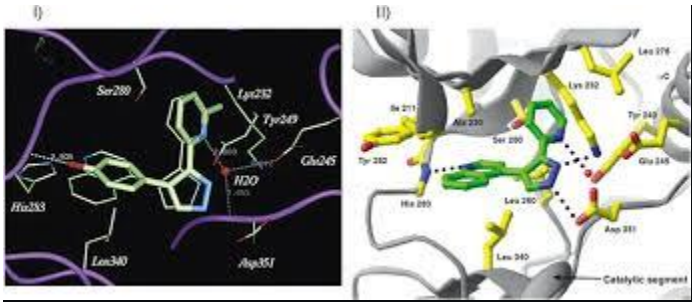

Vehicle
Piliostes Tree 0.1%
Piliostes Tree 1%
Piliostes Tree 5%
UV induced
(c)
Untreated
UV
Vehicle
Piliostes Tree 0.1%
Piliostes Tree 5%
UV induced
(b)
Untreated
UV
Vehicle
Piliostes Tree 0.1%
Piliostes Tree 5%
UV induced
(c)

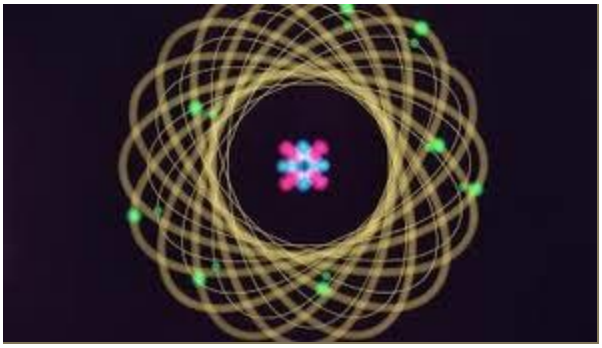


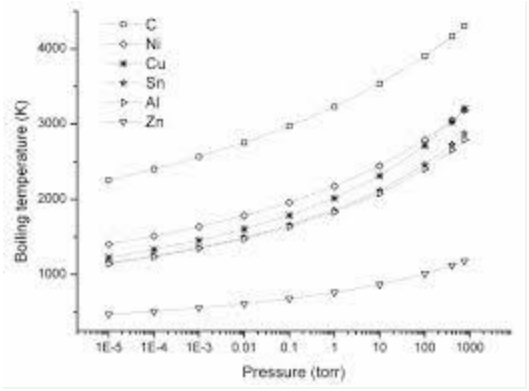

MAGNESIUM

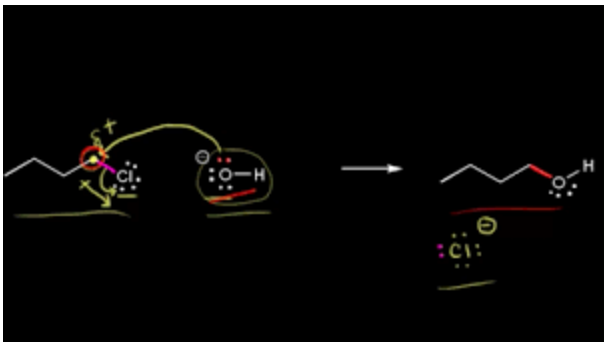


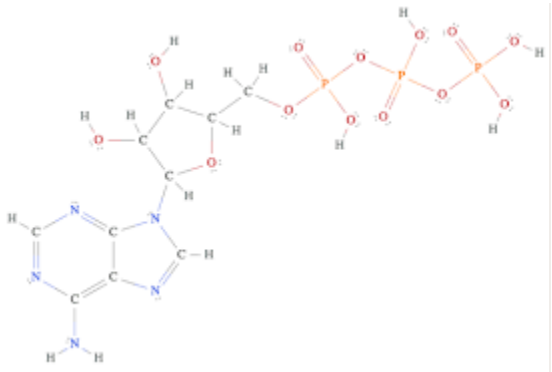


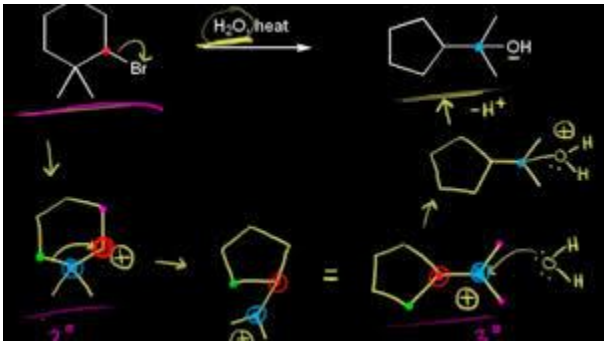

I)
Ser280
Lys252
Tyr249
Glu245
HOH
His283
Leu340
Asp351
II)
Leu 376
Lys 252
Ile 211
Ala 230
Tyr 249
Ser 280
Tyr 283
Glu 245
His 283
Leu 280
Asp 281
Leu 340
Catalytic segment

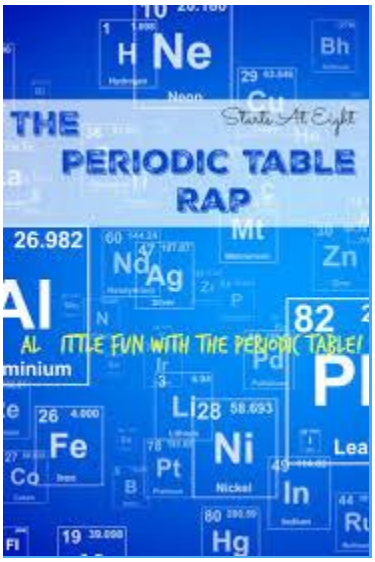


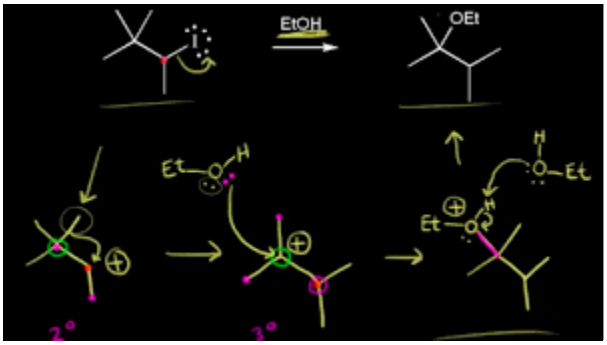

C
Ni
Cu
Sn
Al
Zn
Boiling temperature (K)
4000
3000
2000
1000
1E-5
1E-4
1E-3
0.01
0.1
1
10
100
1000
Pressure (torr)


Cl
O—H
H
Cl

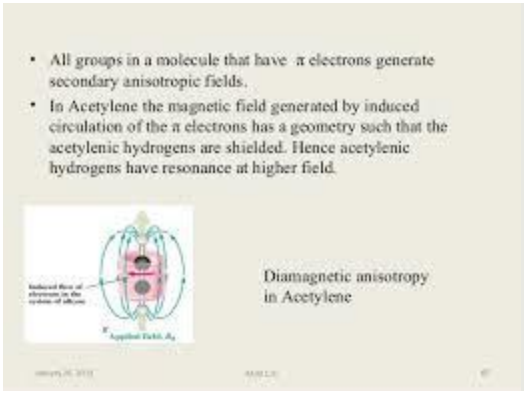


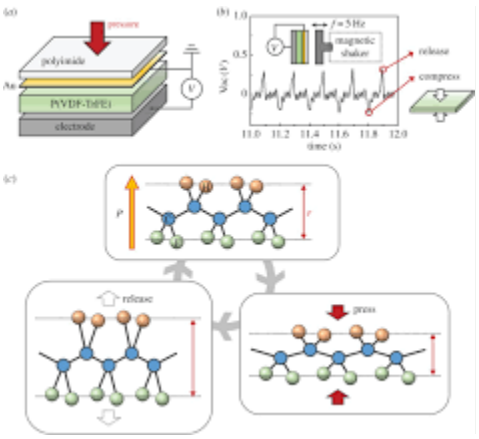

Br
H_2O, heat
OH
$-H^+$
2°
3°


THE
PERIODIC TABLE
RAP
Starts At Eight
AL ITTLE FUN WITH THE PERIODIC TABLE!
26.982
Al
Ne
Fe
Ni
Pt
Hg
In
Pd
Zn
Ag
Mt
Bh
Li28 58.693
82
Pl
Lea
Ru
minium

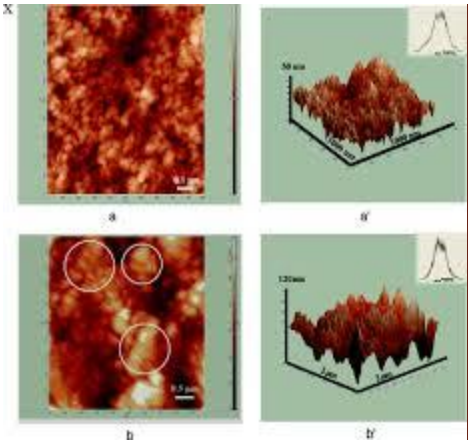

EtOH
OEt
Et
2°
3°

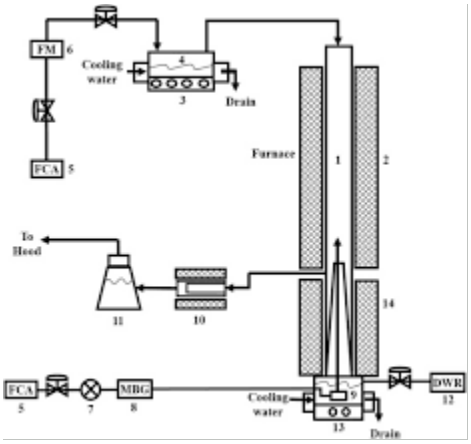



All groups in a molecule that have π electrons generate secondary anisotropic fields.
In Acetylene the magnetic field generated by induced circulation of the π electrons has a geometry such that the acetylenic hydrogens are shielded. Hence acetylenic hydrogens have resonance at higher field.
Diamagnetic anisotropy in Acetylene


pressure
polyimide
PVDF-TrFE
release
compress
magnetic shaker
release
press



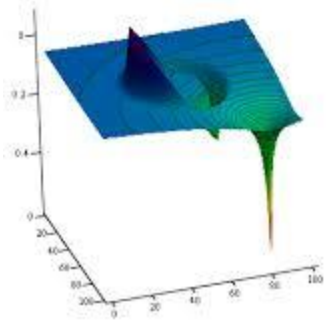

X
a
a'
b
b'

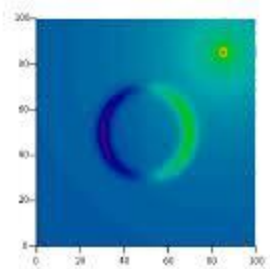

FM
6
Cooling water
4
3
Drain
FCA
5
Furnace
1
2
To Hood
11
10
14
FCA
5
7
MBC
8
Cooling water
9
13
Drain
PWR
12

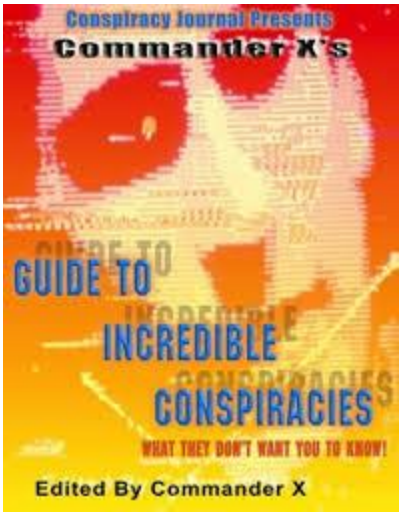


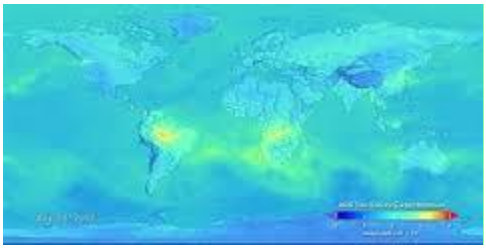

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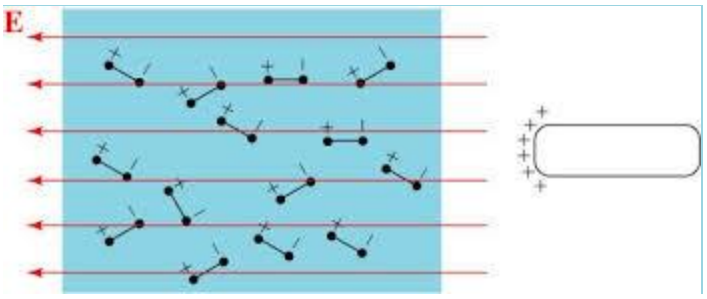


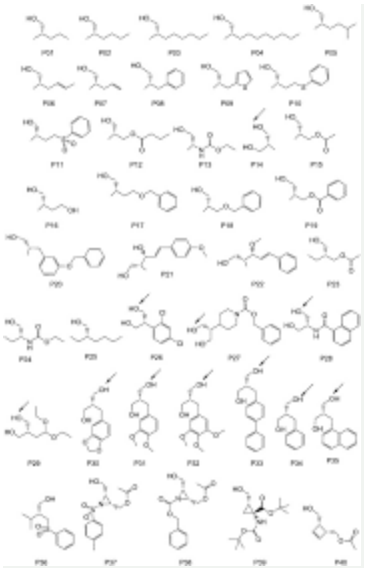


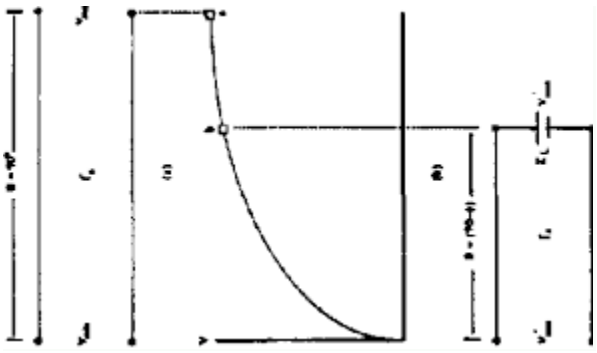


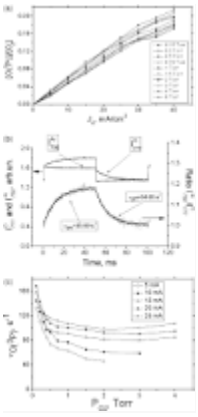

Conspiracy Journal Presents
Commander X's
GUIDE TO
INCREDIBLE
CONSPIRACIES
WHAT THEY DON'T WANT YOU TO KNOW!
Edited By Commander X

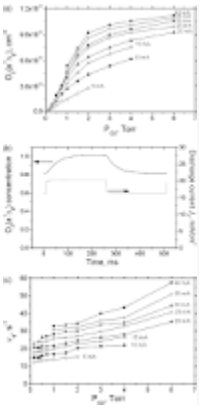














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Review

UNSATURATED COMPOUNDS OF SILICON AND GROUP HOMOLOGUES

VIII *. UNSATURATED SILICON AND GERMANIUM COMPOUNDS OF THE TYPES $R_2E{=}C(SiR_3)_2$ AND $R_2E{=}N(SiR_3)_2$ (E = Si, Ge)

NILS WIBERG
Institut für Anorganische Chemie der Universität München, Meiserstrasse 1, D-8000 München 2 (FRG) Germany

(Received February 28th, 1994)

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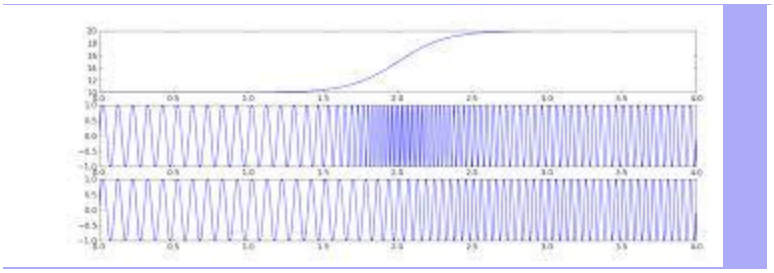
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1. Introduction

Compounds with *pπ–pπ* bonded silicon ("unsaturated silicon compounds") are highly unstable compared to those with *pπ–pπ* bonded carbon ("unsaturated carbon compounds"). The generation and detection of unsaturated silicon compounds, which are stable only at very high temperatures [1] and in normal cases metastable only at very low temperatures, was considered, for a long time, to be one of the "classical problems" of silicon chemistry. Accordingly, unsaturated silicon

* For part VII, see ref. 48. Also part LIII of compounds of silicon and group homologues. For part LII see ref. 49.

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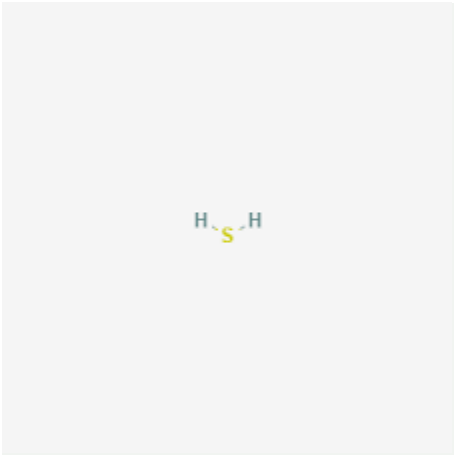


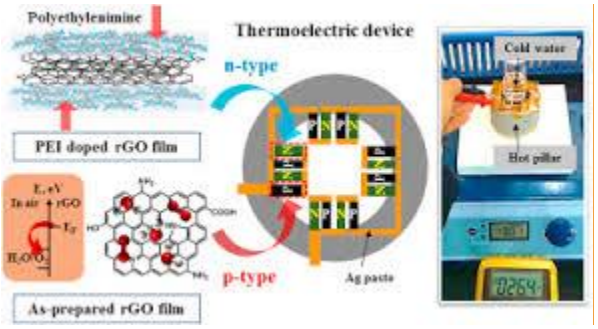

Supplemental Material

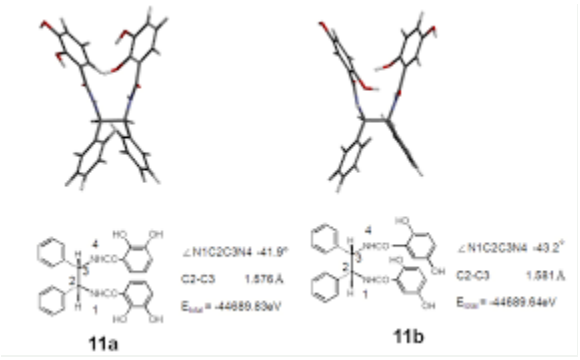
Crystal structure and cytotoxic activities of a bis[pyrrolyl-imine] gold(III) complex

DANIEL DE MORAES PEREIRA, RAPHAEL ENOQUE FERRAZ DE PAIVA, CAMILLA ABBEHAUSEN, ALEXANDRE CUIN, ROBERTO SANCHES DE, DAISY MACHADO, MARCELO LANCELLOTTI, PEDRO PAULO CORBI and ANDRÉLUIS BARBOSA FERREIRA*

					
	GPHS-RTG Past	MMRTG Present	ASRG In Development	ARTG Future	TPV Future
Electric Output, BOM, W_e	285	125	~140-150	~280 to 420	~38-50
Heat Input, BOM, W_t	4500	2000	500	3000	250
RPS System Efficiency, BOM, %	6.3	6.3	~28-30	~9-14	~15-20
Total System Weight, kg	56	44.2	~19-21	~40	~7
Specific Power, W_e/kg	5.1	2.8	~7-8	~7-10	~6-7
Number of GPHS Modules	18	8	2	12	1
GPHS Module Weight, kg	25.7	12.9	3.2	19.3	1.6
^{238}Pu Weight, kg	7.6	3.5	0.88	5.3	0.44

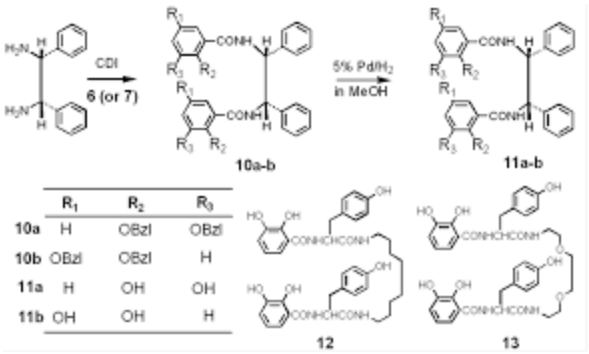




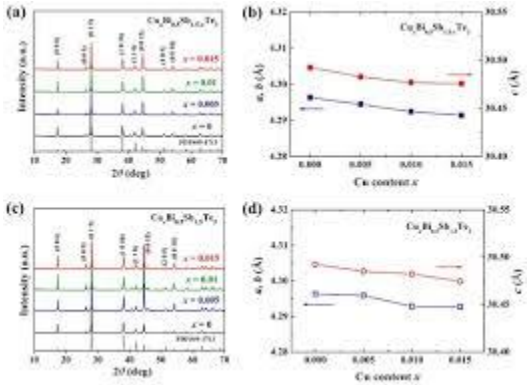


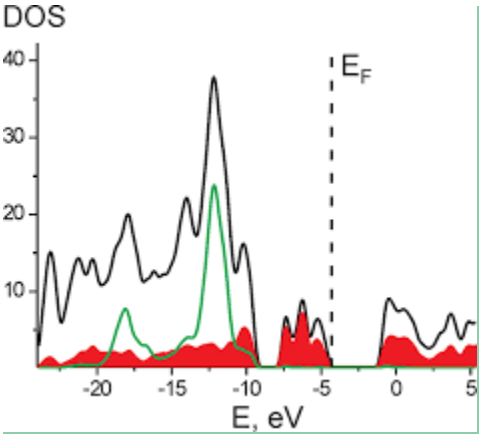




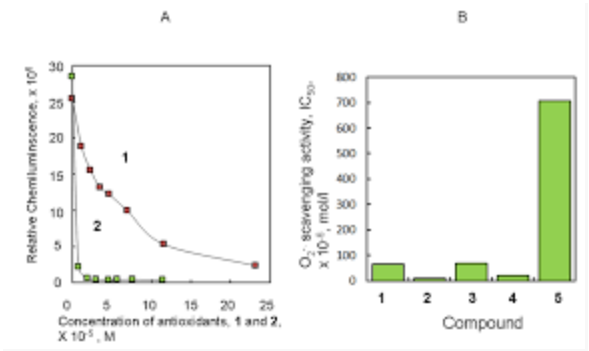


	R_1	R_2	R_3
10a	H	OBzl	OBzl
10b	OBzl	OBzl	H
11a	H	OH	OH
11b	OH	OH	H

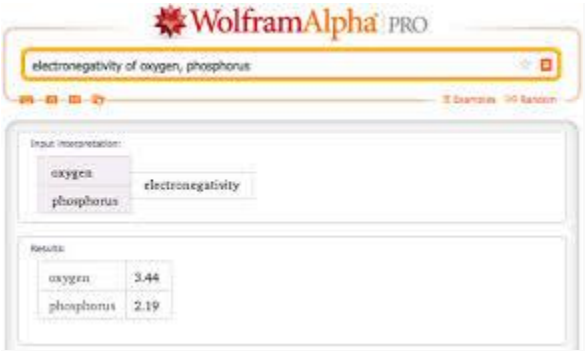


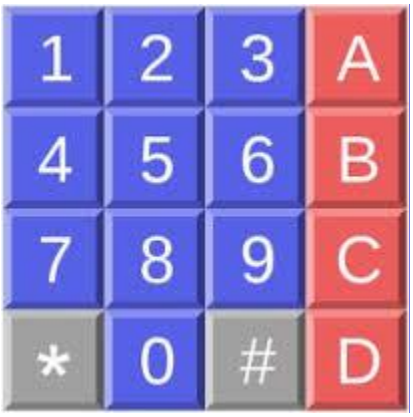


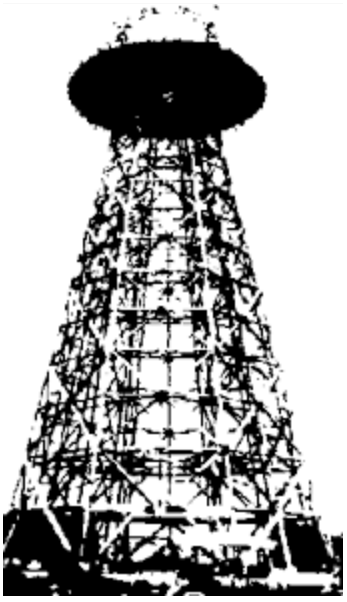
A B

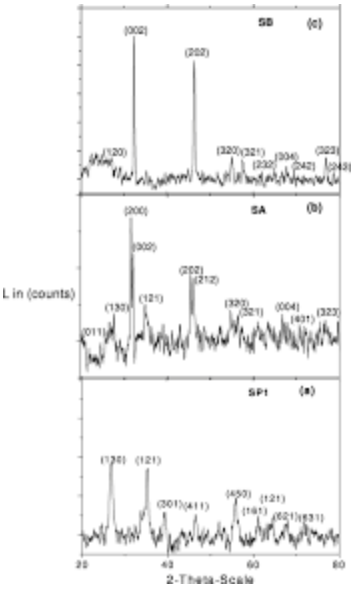


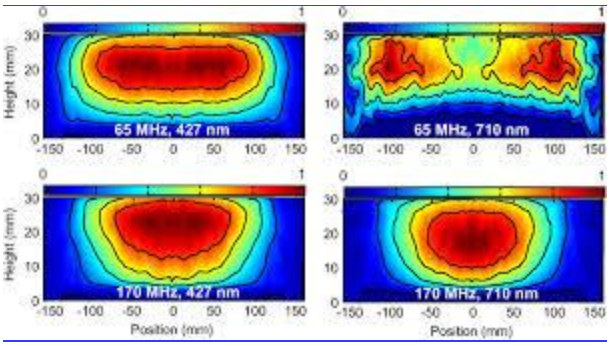




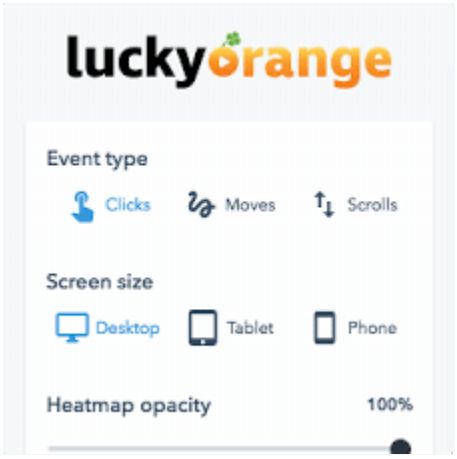


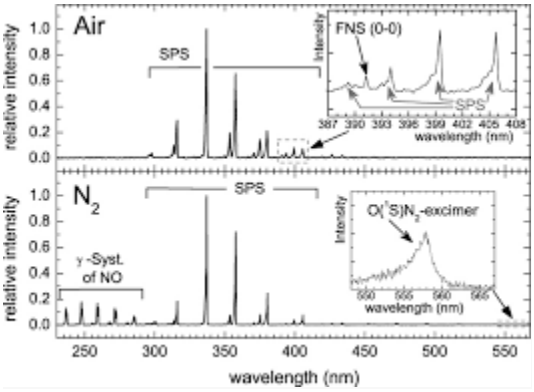




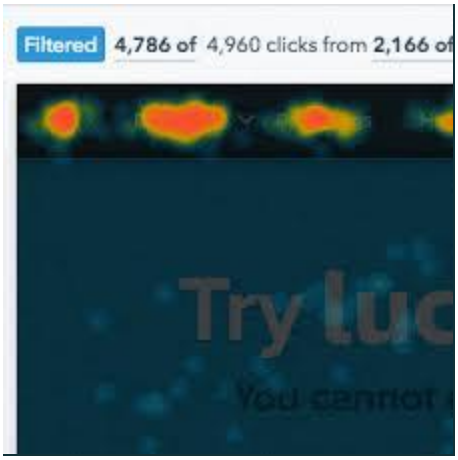




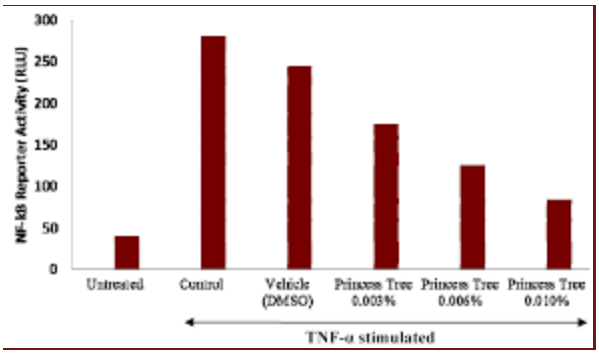


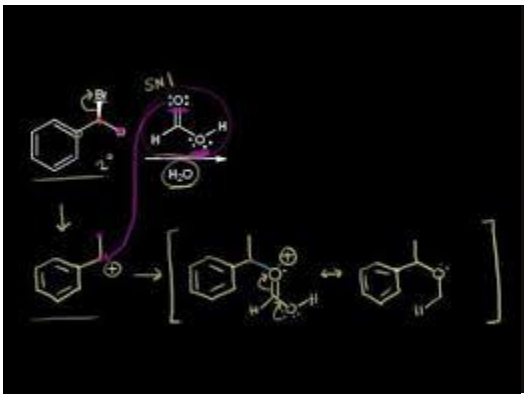


Element		Z	EN	Element		Z	EN	Element		Z	EN
Hydrogen	H	1	2.2	Calcium	Ca	20	1.0	Yttrium	Y	39	1.2
Helium	He	2	-	Scandium	Sc	21	1.3	Zirconium	Zr	40	1.4
Lithium	Li	3	1.0	Titanium	Ti	22	1.5	Niobium	Nb	41	1.6
Beryllium	Be	4	1.5	Vanadium	V	23	1.6	Molybdenum	Mo	42	1.8
Boron	B	5	2.0	Chromium	Cr	24	1.6	Technetium	Tc	43	1.9
Carbon	C	6	2.5	Manganese	Mn	25	1.5	Ruthenium	Ru	44	2.2
Nitrogen	N	7	3.0	Iron	Fe	26	1.8	Rhodium	Rh	45	2.2
Oxygen	O	8	3.5	Cobalt	Co	27	1.8	Palladium	Pd	46	2.2
Fluorine	F	9	4.0	Nickel	Ni	28	1.8	Silver	Ag	47	1.9
Neon	Ne	10	-	Copper	Cu	29	1.9	Cadmium	Cd	48	1.7
Sodium	Na	11	0.9	Zinc	Zn	30	1.6	Indium	In	49	1.7
Magnesium	Mg	12	1.2	Gallium	Ga	31	1.6	Tin	Sn	50	1.8
Aluminum	Al	13	1.5	Germanium	Ge	32	1.8	Antimony	Sb	51	1.9
Silicon	Si	14	1.8	Arsenic	As	33	2.0	Tellurium	Te	52	2.1
Phosphorous	P	15	2.1	Selenium	Se	34	2.4	Iodine	I	53	2.5
Sulfur	S	16	2.5	Bromine	Br	35	2.8	Xenon	Xe	54	-
Chlorine	Cl	17	3.0	Krypton	Kr	36	-	Cesium	Cs	55	0.7
Argon	Ar	18	-	Rubidium	Rb	37	0.8	Barium	Ba	56	0.9
Potassium	K	19	0.8	Strontium	Sr	38	1.0	Lanthanum	La	57	1.1

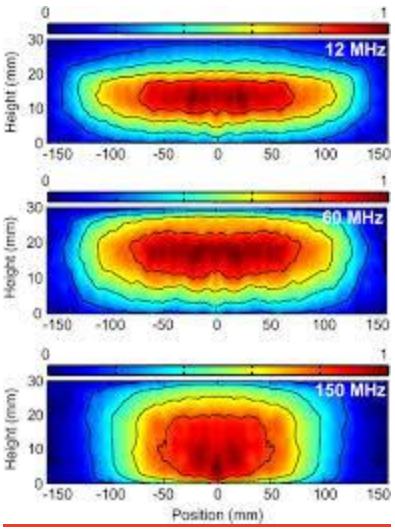












$$\nabla\times\nabla\times\mathbf{A}=\frac{\sigma\mu_1}{\varepsilon_{g0}\varepsilon_g\Delta_s}[-\nabla\varphi-\frac{\partial}{\partial t}(\varepsilon\varepsilon_0\mathbf{A}+\varepsilon_1\mathbf{A}_g)-b\nabla\varphi_g-$$

$$b\frac{\partial}{\partial t}(\varepsilon_g\varepsilon_{g0}\mathbf{A}_g+\varepsilon_1\mathbf{A})]$$

$$-\mu\mu_0[\nabla\frac{\partial\varphi}{\partial t}+\frac{\partial^2}{\partial^2 t}(\varepsilon\varepsilon_0\mathbf{A}+\varepsilon_1\mathbf{A}_g)]-\mu_1[\nabla\frac{\partial\varphi_g}{\partial t}+$$

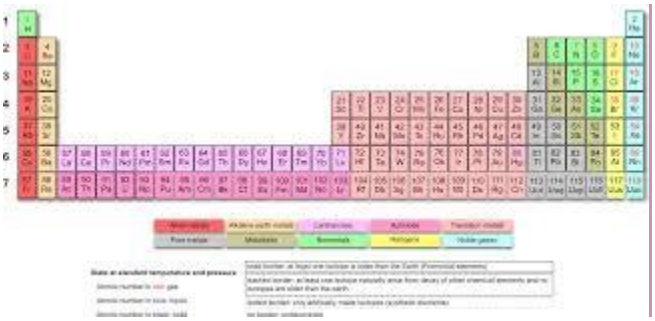
$$\frac{\partial^2}{\partial^2 t}(\varepsilon_g\varepsilon_{g0}\mathbf{A}_g+\varepsilon_{11}\mathbf{A})]-\mu_1\rho_g\mathbf{v};$$

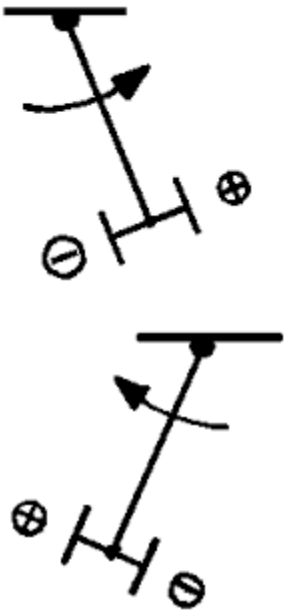
$$\nabla\times\nabla\times\mathbf{A}_g=\frac{\sigma\mu_1}{\varepsilon_{g0}\varepsilon_g\Delta_s}[-\nabla\varphi-\frac{\partial}{\partial t}(\varepsilon\varepsilon_0\mathbf{A}+\varepsilon_1\mathbf{A}_g)-b\nabla\varphi_g-$$

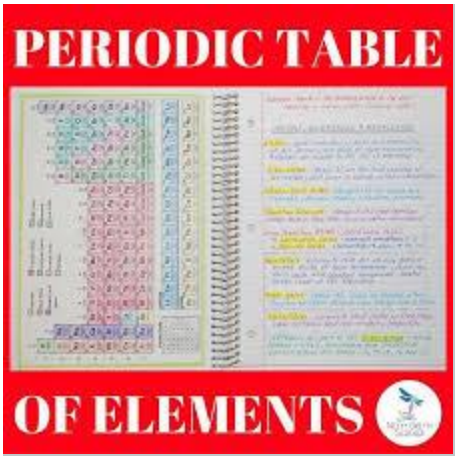
$$b\frac{\partial}{\partial t}(\varepsilon_g\varepsilon_{g0}\mathbf{A}_g+\varepsilon_1\mathbf{A})]$$

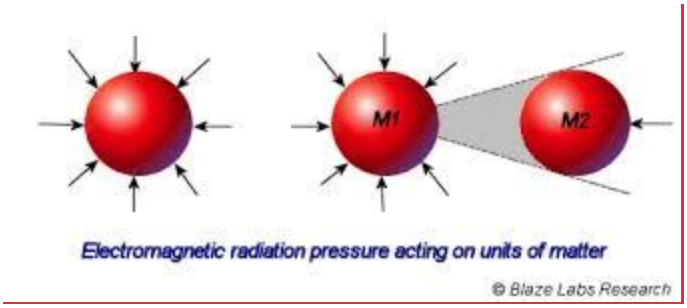
$$-\mu\mu_0[\nabla\frac{\partial\varphi}{\partial t}+\frac{\partial^2}{\partial^2 t}(\varepsilon\varepsilon_0\mathbf{A}+\varepsilon_1\mathbf{A}_g)]-\mu_1[\nabla\frac{\partial\varphi_g}{\partial t}+$$

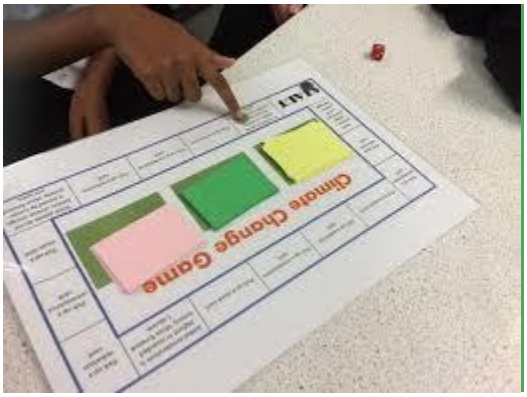
$$\frac{\partial^2}{\partial^2 t}(\varepsilon_g\varepsilon_{g0}\mathbf{A}_g+\varepsilon_{11}\mathbf{A})]-\mu_g\mu_{g0}\rho_g\mathbf{v}$$



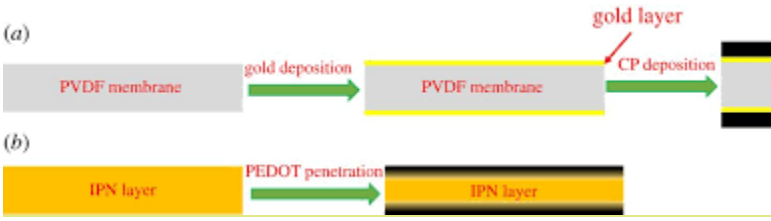


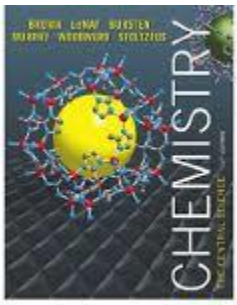






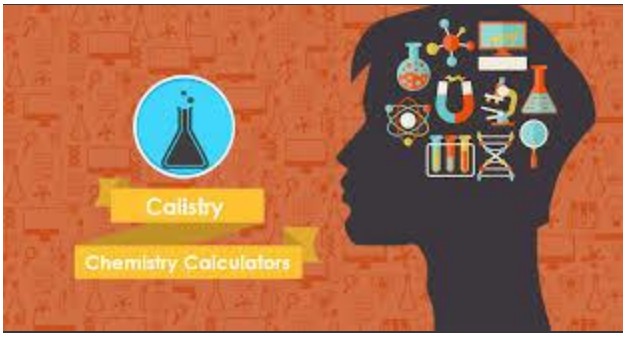


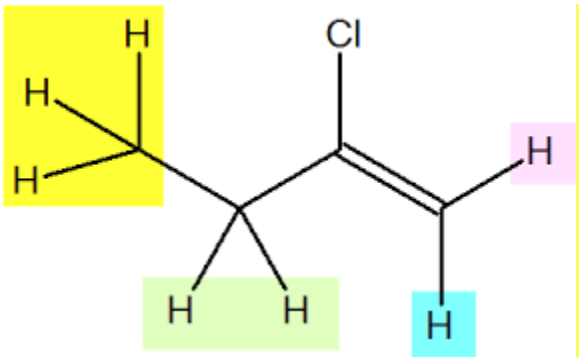


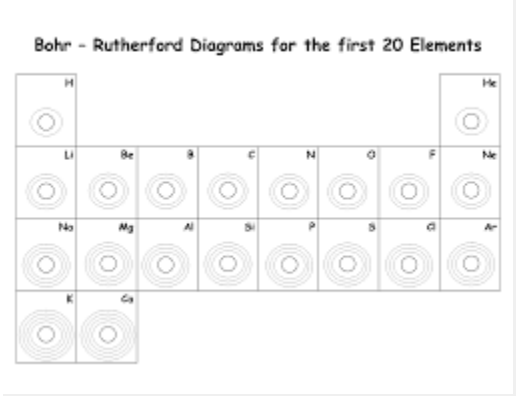


Prime (588 Reviews)

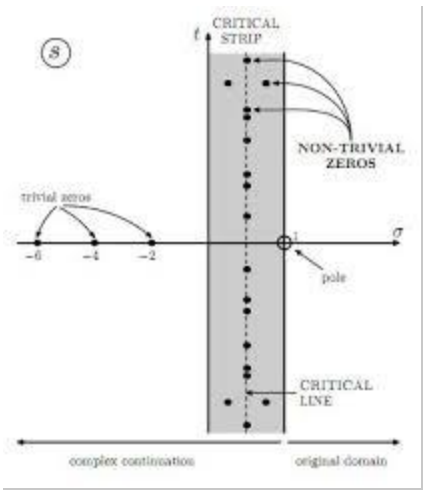
2 days ago



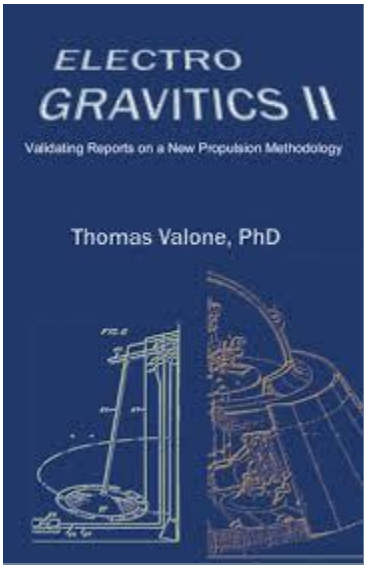


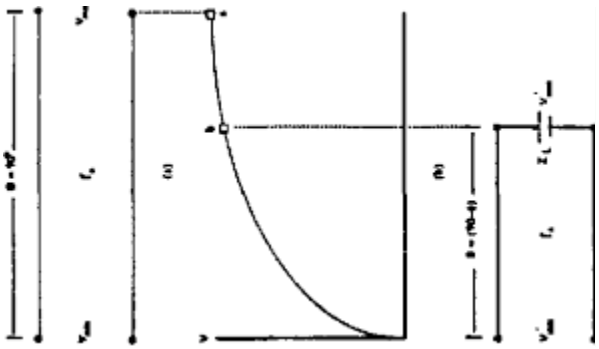


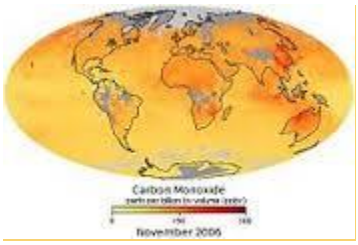

Maze Maker

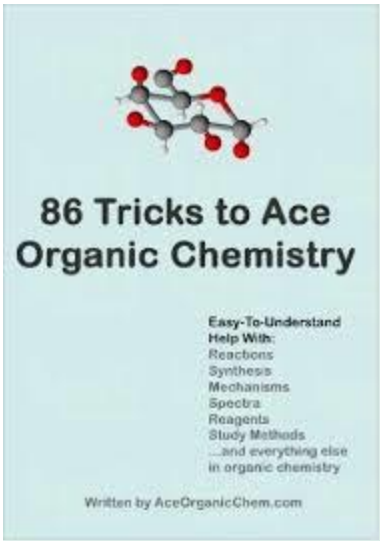

CRITICAL STRIP
NON-TRIVIAL ZEROS
trivial zeros
pole
CRITICAL LINE
complex continuation
original domain

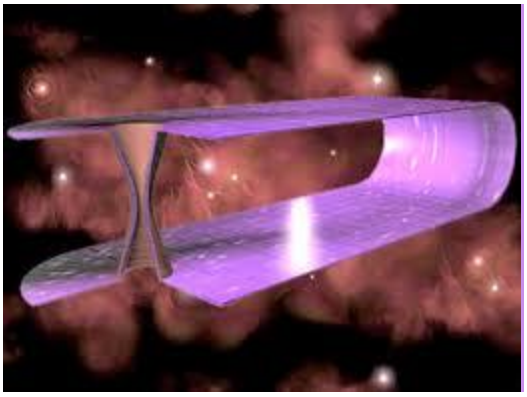


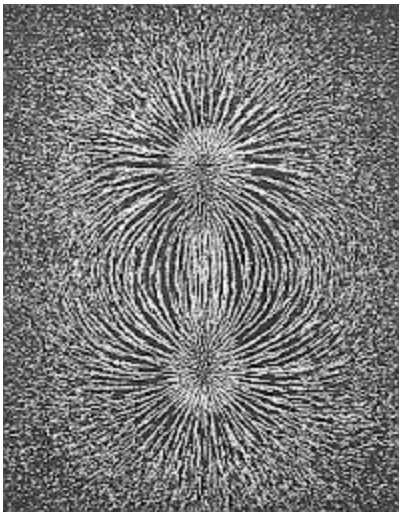

ELECTRO
GRAVITICS II
Validating Reports on a New Propulsion Methodology
Thomas Valone, PhD




Carbon Monoxide
November 2005


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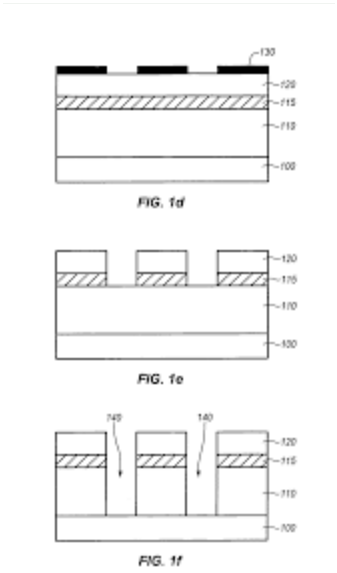
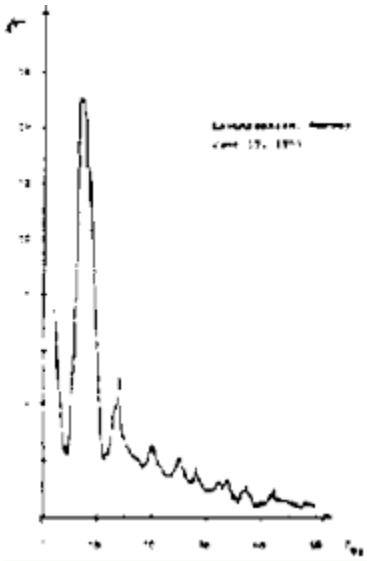


FIG. 1d

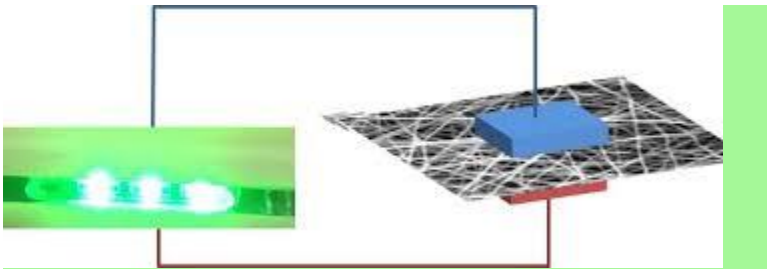
FIG. 1e

FIG. 1f

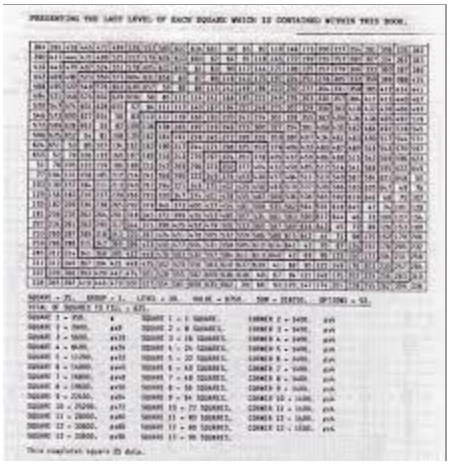


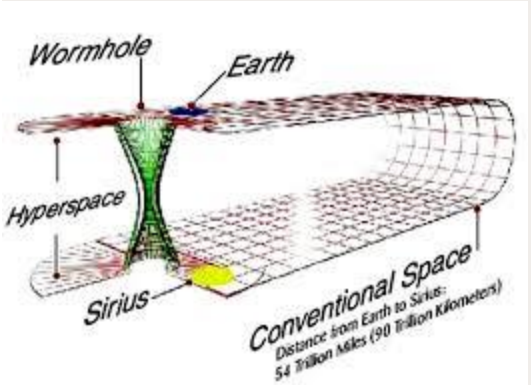











Wormhole
Earth
Hyperspace
Sirius
Conventional Space
Distance from Earth to Sirius:
54 Trillion Miles (90 Trillion Kilometers)

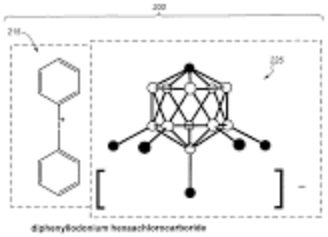
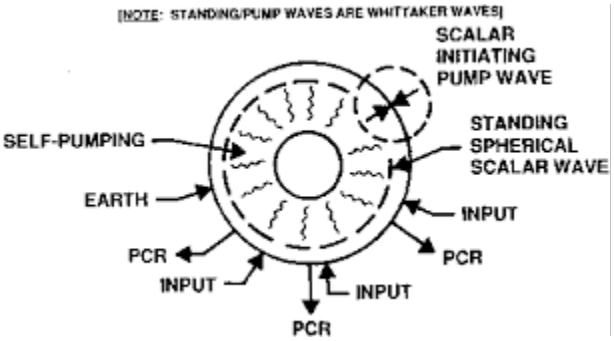

diphenyldodecium hexachlorocarbonide

FIG. 2b


[NOTE: STANDING/PUMP WAVES ARE WHITTAKER WAVES]
SCALAR INITIATING PUMP WAVE
STANDING SPHERICAL SCALAR WAVE
SELF-PUMPING
EARTH
INPUT
PCR
PCR
INPUT
INPUT
PCR

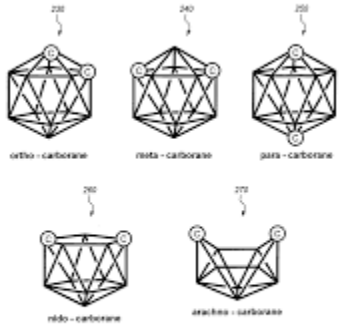
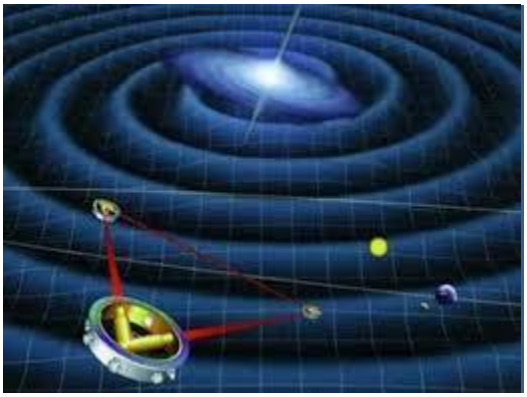
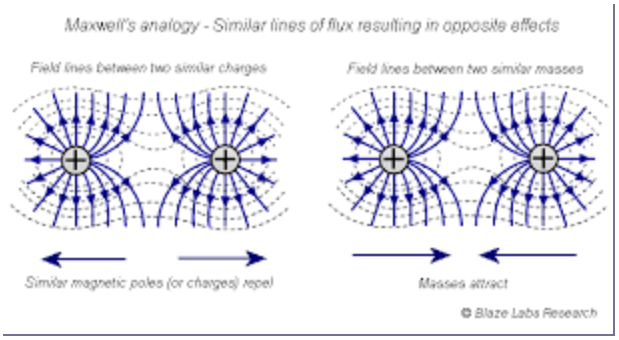

ortho - carborane
meta - carborane
para - carborane
nido - carborane
arachno - carborane

FIG. 2c






Maxwell's analogy - Similar lines of flux resulting in opposite effects
Field lines between two similar charges
Field lines between two similar masses
Similar magnetic poles (or charges) repel
Masses attract
© Blaze Labs Research











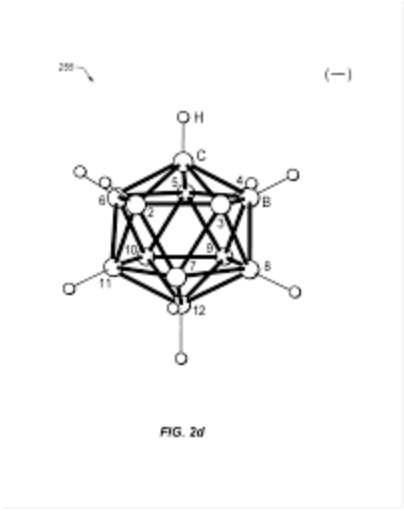
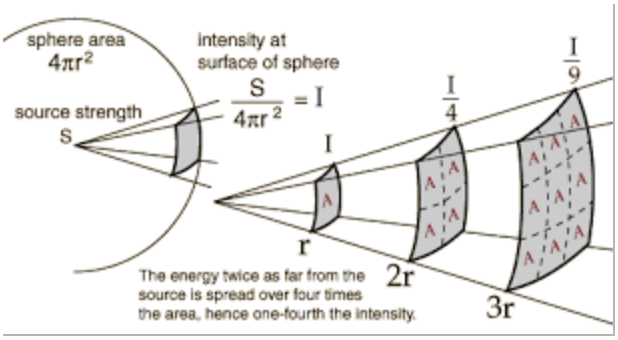


FIG. 2d

Date	Time (Aproximate to 10 minutes, more or less)	Weighted (Aproximate to 500g, more or less)	Normal Weight	Type of Scale	Raport Number
03/0900	23h 40m	43.248Kg	41.600Kg	Electronic	1-9-00
12/0900	00h 20m	43.876Kg	41.600Kg	Electronic	1-9-00
18/0900	00h 25m	5 Kg	41.600Kg	Mechanical	2-9-00
21/0900	00h 50m	7.200Kg	41.600Kg	Mechanical	3-9-00
22/0900	04h 10m	4.700Kg	41.600Kg	Mechanical	4-9-00
27/0900	00h 20m	5.300Kg	41.600Kg	Mechanical	5-9-00
29/0900	01h 35m	5.600Kg	41.600Kg	Mechanical	6-9-00
"/"/""	" "	78.800Kg	41.600Kg	Mechanical	6-9-00
11/1000	22h 40m	41.500kg	42Kg	Mechanical	1-10-00
15/1000	00h 20m	6.100Kg	42Kg	Mechanical	2-10-00
16/1000	03h 0m	5.200Kg	42Kg	Mechanical	3-10-00
17/1000	00h 25m	5.900Kg	42Kg	Mechanical	4-10-00
19/1000	05h 10m	3.800Kg	42Kg	Mechanical	5-10-00
23/1000	04h 45m	3.600Kg	42Kg	Mechanical	6-10-00
27/1000	01h 40m	4.300Kg	42Kg	Mechanical	7-10-00
29/1000	00h 50m	5.300Kg	42Kg	Mechanical	8-10-00
09/1100	01h 40m	3.200Kg	42Kg	Mechanical	1-11-00
10/1100	03h 10m	00000Kg	42Kg	Mechanical	2-11-00
19/1100	00h 35m	00000Kg	42Kg	Mechanical	3-11-00
23/1100	04h 40m	4.300Kg	42Kg	Mechanical	4-11-00
27/1100	00h 10m	4.900Kg	42Kg	Mechanical	5-11-00
29/1100	01h 40m	4.200Kg	42Kg	Mechanical	6-11-00









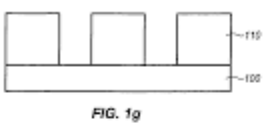


FIG. 1g



FIG. 1h

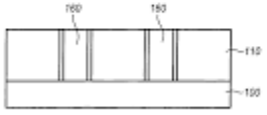
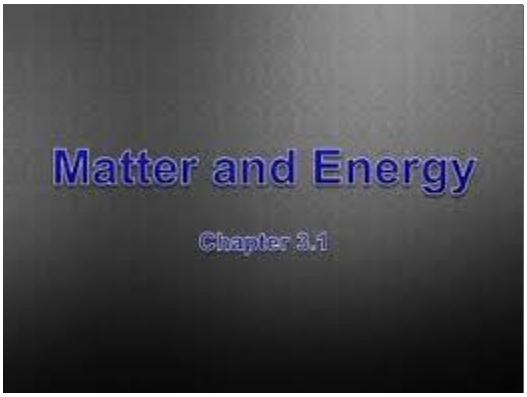


FIG. 1i



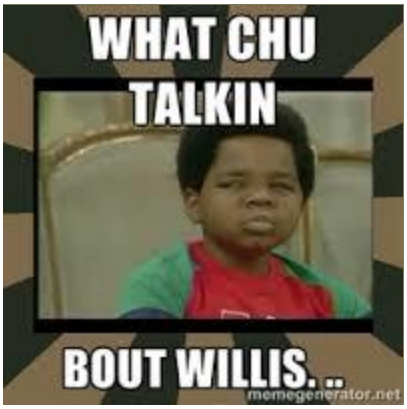


•Field sweep method

•There is a relationship between the resonance frequency of the nucleus and the strength of the magnetic field in which the sample is placed

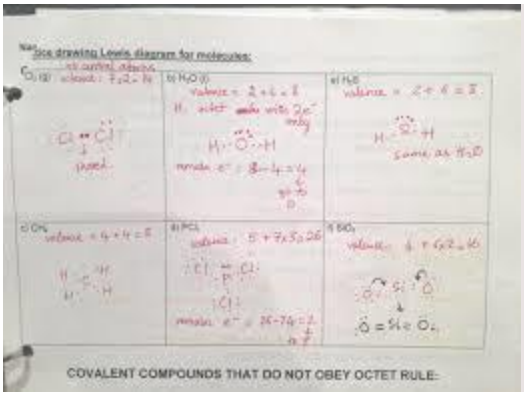
•If the RF radiation is constant, in order to bring their resonance, the precession of the nucleus is to be changed by changing the applied magnetic field.

•Generally the field sweep method is regarded as better because it is easier to vary the magnetic field than the RF radiation so as to bring about resonance in nuclei.

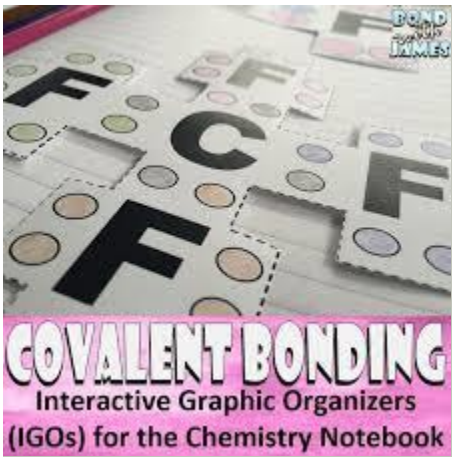


➢The RFO coil is installed perpendicular (90 °C) to the applied magnetic field and transmits radio waves of fixed frequency such as 60,100,200 or 300 MHz to a small coil that energies the sample in the probe.

➢This is done so that the applied RF field should not change the effective magnetic field in the process of irradiation.



- All nuclei carry a charge. In some nuclei this charge spins on the nuclear axis and this circulation of nuclear charge generates a magnetic dipole along the axies.
- The nuclei of atoms are composed of protons and neutrons. Like electrons, these particle also have the properties to spin on their own axis and each of them possesses angular momentum1/2(h/2π) in accordance with the quantum theory. The net resultant of the angular momentum of all nuclear particles is called ***nuclear spin.***
- For a nucleus having a spin quantum number I, these are(2I +1) spin states.



- Precession arises due to the interaction of spin and the gravitational force acting downwards. This is the reason why only a spinning top will precess; where as a static top will topple over.
- Since the proton is a spinning magnet, it will precess around the axis of an applied external magnetic field. It will precess in two main orientations.
- Aligned or parallel with the field-low energy.
- Opposed or anti parallel to the field-high energy.



3. MAGIC ANGLE NMR

- A problem with the examination of solids that the nuclei can be frozen in space and cannot freely line up in magnetic field.
- The NMR signals generated are dependent among other things, on the orientation of the nuclei. The randomly oriented nuclei therefore give broad band spectra which are not very useful analytically.
- It can be shown that when one rotates a solid sample such that its axis of rotation 54.7° to the direction of the applied magnetic field, the broadening caused by random nuclear orientations tends to be average out, resulting in narrower spectra.





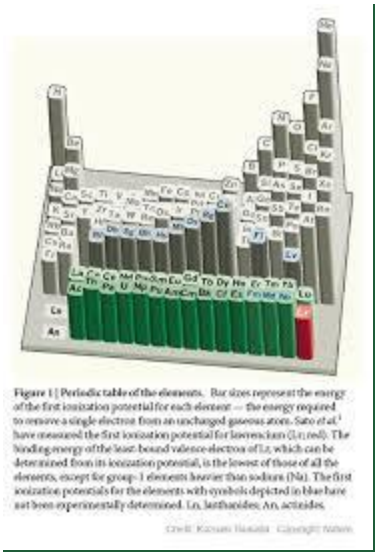


Figure 1 | Periodic table of the elements. Bar sizes represent the energy of the first ionization potential for each element — the energy required to remove a single electron from an uncharged gaseous atom. Sato *et al.*[1] have measured the first ionization potential for lawrencium (Lr; red). The binding energy of the least-bound valence electron of Lr, which can be determined from its ionization potential, is the lowest of those of all the elements, except for group-1 elements heavier than sodium (Na). The first ionization potentials for the elements with symbols depicted in blue have not been experimentally determined. Ln, lanthanides; An, actinides.

Credit: Katsuhiko Nakada Copyright Nature

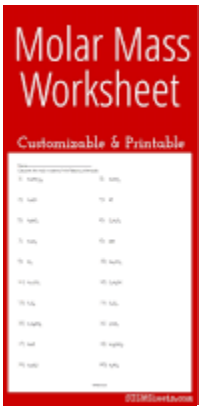


Fish are being caught to make animal feed for intensively farmed animals even though this is not part of their normal diet. Lose a counter.	Fish are being caught at a faster rate than they can breed. This is unsustainable. Lose 2 counters.
More boats than ever before are being used to catch fish leading to a greater number of fish being caught. Lose a counter.	Fish are being caught before they can reach breeding age. Lose 2 counters.
More sophisticated nets leads to more fish being caught. Lose a counter.	Over-fishing has led to the extinction of a fish species. This has affected the whole food chain, threatening other fish species. Lose 1 counter.
Fish makes up about 15% of the worldwide protein intake. As human population increases, demand for fish increases. Lose a counter.	Cod and tuna are very popular fish for eating and their populations are threatened. Lose 1 counter.
Despite dwindling fish populations, fisherman continue to catch fish at the same rate, causing numbers to fall further. Lose 1 counter.	Small nets lead to loss of small fish being caught when only 1 big species of fish is wanted. The unwanted fish are not eaten. Lose 2 counters.

Describe **ENDOTHERMIC** without saying: Heat Loss Surroundings Endothermic	Make **FUEL** out of play dough. No talking or gesturing.
Draw **ENTHALPY**. No symbols, letters, numbers or talking allowed.	Act out **COMBUSTION**. No talking!
Draw **ENDOTHERMIC**. No symbols, letters, numbers or talking allowed.	Act out **ENERGY**. No talking!
Draw **ACTIVATION ENERGY**. No symbols, letters, numbers or talking allowed.	Make **PHOTOSYNTHESIS** out of play dough. No talking.
Describe **CONSERVATION OF ENERGY** without saying: Transferred Lost Heat Surroundings.	Draw **THERMAL DECOMPOSITION** without talking.

Hotseat

- You will be in 2 teams.
- One person from team 1 will come up and sit facing the back of the room.
- Words will appear on the screen – you must describe the word in red without saying any of the words underneath.
- If they guess the word correctly, I will move on to the next word.
- You have 30 seconds in the hot seat to guess as many words as possible before someone from the other team gets a turn.
- The team with the most correct guesses at the end of the game wins.
- You cannot say any of the words on the screens – or words derived from them. For example, if the word is biogas, you cannot say bio or gas! Or if the word is oxygen, you cannot say oxygenated. If you do, you will lose a point and I will move on to the next word.
- Example...



❖ The standard reference substance used universally is **TETRAMETHYLSILANE (TMS)**, the standard reference is also known as **Internal Standard.**

$$\text{Chemical Shift, ppm } \delta = \frac{\text{Shift from TMS in Hz}}{\text{Spectrometer frequency (MHz)}} \times 10^6$$

Eg: for CH_3Br protons, chemical shift from TMS = 162Hz in a 60 MHz instrument and 270Hz in a 100 MHz instrument. Calculate δ value.

$$\delta = 162\text{Hz} / 60\text{ MHz} = 270 / 100 = 2.7\text{ppm}$$

Hence, δ Value remains same irrespective of the spectrometer.

REFERENCE STANDARDS

CHARACTERISTICS:-

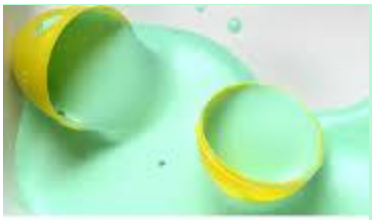
- ✓ Chemical inertness
- ✓ Magnetically neutral
- ✓ Gives single sharp peak
- ✓ Easily recognizable peak
- ✓ Miscible with wide range of solvents
- ✓ Volatility –to facilitate recovery from valuable samples

B. TRANSVERSE RELAXATION

- ❑ An excited nucleus may transfer its energy to an unexcited nucleus of a similar molecules that is nearby.
- ❑ In this process, the nearby unexcited nucleus becomes excited a the previously excited nucleus become unexcited.
- ❑ There is no net change in energy of the system, but the length of the time that one nucleus stays excited is shortened. This process, which is called transverse relaxation T_1

Population Growth Game

- You will need a counter each, a dice and paper to record your population.
- Each of you in the team is a planet (you can name your planet if you wish to). Take in in turns to roll the dice and move your counter. As you go around the board, add or subtract people from your planet depending on what is written on the square you land on. You must stop on all the orange squares and follow the instructions on them. As you play, think about what has caused the massive population growth on earth and what the consequences of this are.



BIG HERO 6 SCIENCE:
Honey Lemon's
Chemistry Concoctions





Cell Beetle Drive

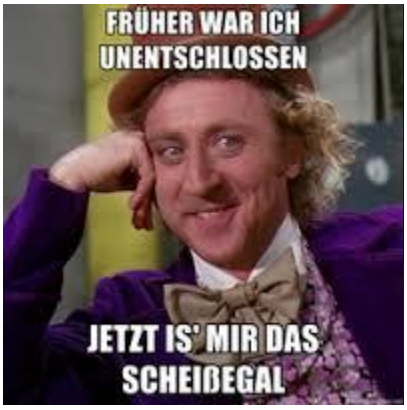


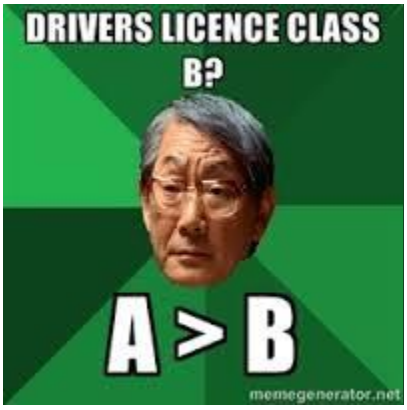
Start. **Name your country and write it on your bank balance sheet.**	Open the envelope and read the proposals. Decide how much you would like to sell and to whom. Do not cross any squares off of your forest yet...	Ask for a "Green Happiness" card. After reading it, make your final decision about how much to sell and cross off the number of squares you have sold.	Collect a pink card and adjust your bank balance.	Collect a green card and adjust your bank balance.
Instructions You form the government of a small country that contains a large rainforest. Due to years of war and instability, the country is not popular with tourists. With very few other industries, the country is running out of money. All that you have is forest so you will need to decide whether to sell a portion. Whenever you sell forest, cross off the squares you have sold on your forest board using a marker pen. You have been borrowing money from other countries and have a debt of £2 500 000 which needs to be paid by the end of the game. Follow the instructions on each square and only move on to the next one when you have completed the task on the square you occupy.				Decide if you would like to sell any more forest and cross the squares off that you have sold.
				Collect a blue card and adjust your bank balance.
				Collect a pink card and adjust your bank balance.
	**Finish** **Deduct your £2 500 000 debt from your bank balance and hand it in. Ask for a question sheet.**	Collect a blue card and adjust your bank balance.	Collect a green card and adjust your bank balance.	Decide if you would like to sell any more forest and cross the squares off that you have sold.




NO ONE WANTS TO BE FOREVER ALONE
REFRESH YOUR CALL
memegenerator.net

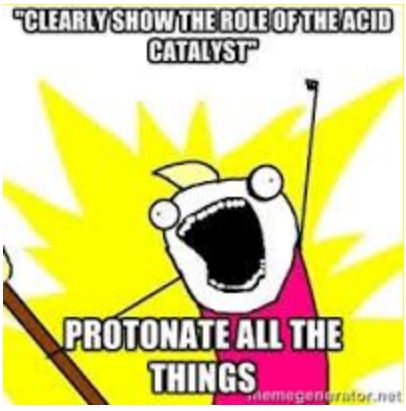

GELIN METTRA SÛREMENT
LES NOTES EN LIGNE CE SOIR


FRÜHER WAR ICH UNENTSCHLOSSEN
JETZT IS' MIR DAS SCHEIßEGAL


DRIVERS LICENCE CLASS B?
A > B
memegenerator.net

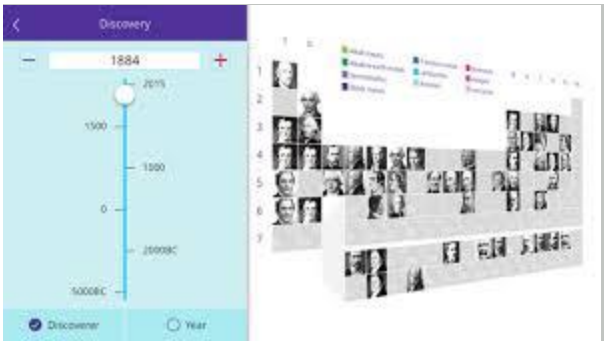

KEEP CALM AND
CONNECT MULTIPOINTS


WORLD CUP 2022 NOT AWARDED TO THE US?
TIME TO GIVE FIFA SOME DEMOCRACY

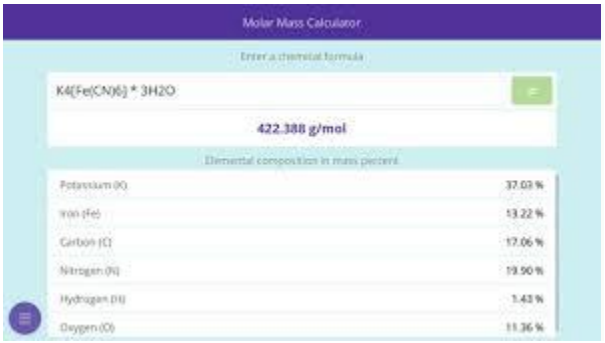

"CLEARLY SHOW THE ROLE OF THE ACID CATALYST"
PROTONATE ALL THE THINGS


SO YOUR'E TELLING ME THAT YOU HAVE AN IPHONE AND AN XBOX 360 AND I HAVE NOTHIN'
YOUR'E WRONG AS I HAVE EVERYTHING!!!!!!!!





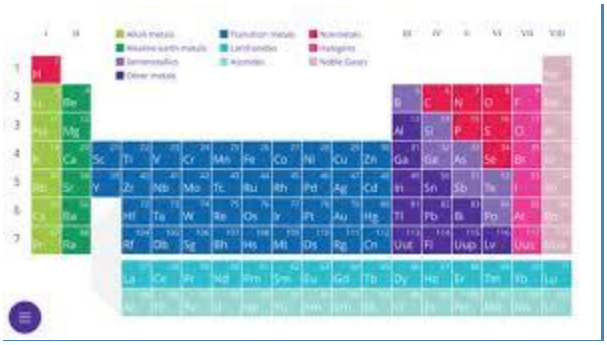




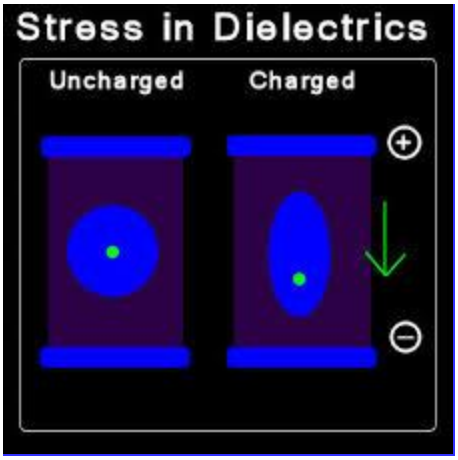
HYDROGEN BONDING :-

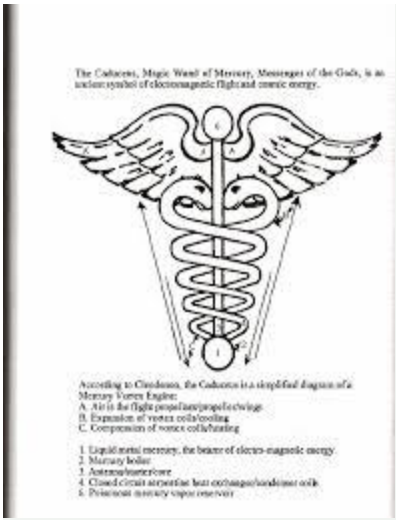
- Hydrogen atom exhibit property of hydrogen bonding in a compound which absorbs at a low field in comparison to the one which does not shows hydrogen bonding.
- Hydrogen bonded proton being attached to a highly electronegative atom will have smaller electron density around it. → less shielded → resonance will occurs downfield and downfield shift depends up on the strength of hydrogen bonding.
- Intramolecular and Intermolecular hydrogen bonding can be easily distinguished as the latter does not show any shift in absorption due to change in concentration.

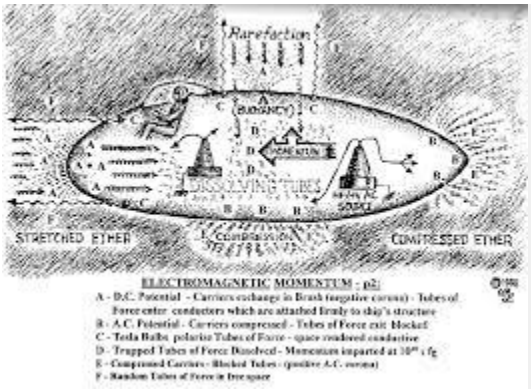




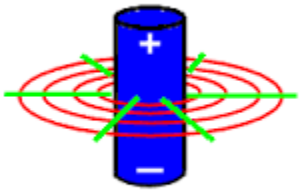


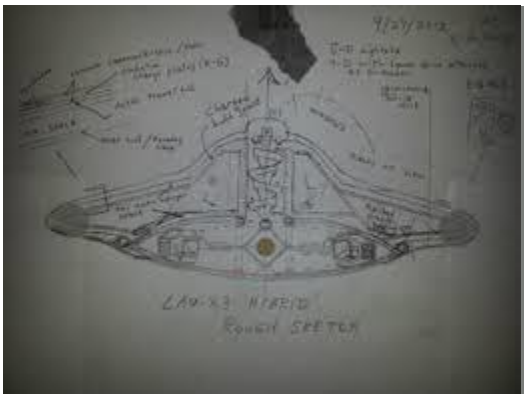

Stress in Dielectrics
Uncharged
Charged

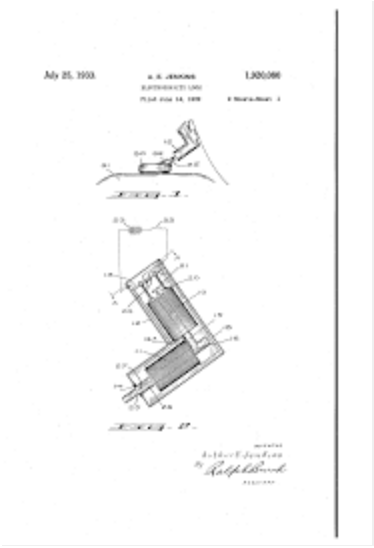

The Caduceus, Magic Wand of Mercury, Messenger of the Gods, is an ancient symbol of electromagnetic flight and cosmic energy.
According to Cloudesley, the Caduceus is a simplified diagram of a Mercury Vortex Engine:
A. Air is the flight propellant/propeller/wings
B. Expansion of vortex coils/cooling
C. Compression of vortex coils/heating
1. Liquid metal mercury, the bearer of electro-magnetic energy
2. Mercury boiler
3. Antenna/counterpoise
4. Closed circuit serpentine heat exchanger/condenser coils
5. Pressurized mercury vapor reservoir

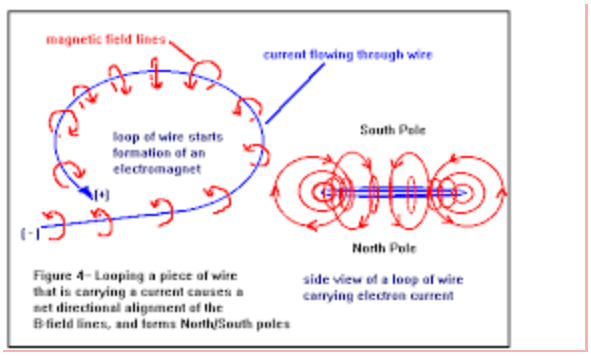

Rarefaction
(SUBSIDENCY)
VORTEX
STRETCHED ETHER
Compression
COMPRESSED ETHER
ELECTROMAGNETIC MOMENTUM - p2:
A - D.C. Potential - Carriers exchange in Brush (negative current) - Tubes of Force enter conductors which are attached firmly to ship's structure
B - A.C. Potential - Carriers compressed - Tubes of Force exit blocked
C - Tesla Bulbs polarize Tubes of Force - space rendered conductive
D - Trapped Tubes of Force Dissolved - Momentum imparted at 10^n i fg
E - Compressed Carriers - Blocked Tubes - (positive A.C. current)
F - Random Tubes of Force in free space

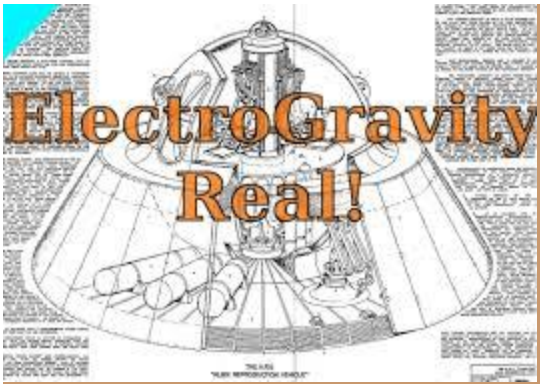

Has anyone ever done any research on what happens when we create a magnetic field and revolve it faster and faster?
No one realizes how everything changes in physics when velocities become extreme.

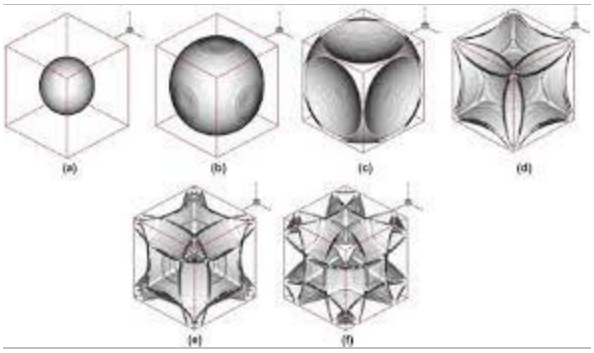

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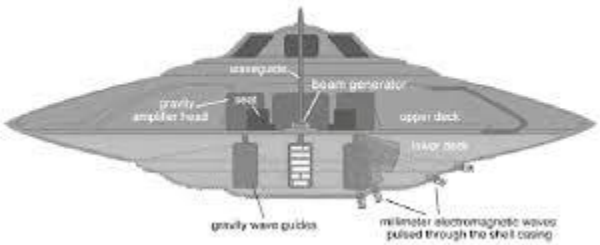


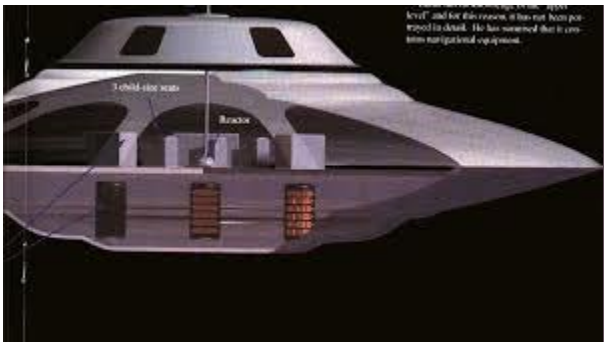



magnetic field lines
current flowing through wire
loop of wire starts formation of an electromagnet
(+)
(-)
South Pole
North Pole
Figure 4– Looping a piece of wire that is carrying a current causes a net directional alignment of the B-field lines, and forms North/South poles
side view of a loop of wire carrying electron current


ElectroGravity
Real!

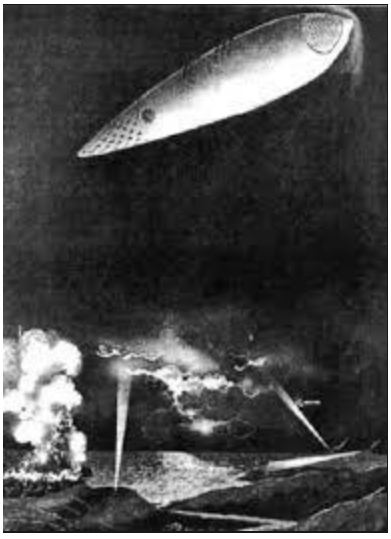

(a)
(b)
(c)
(d)
(e)
(f)

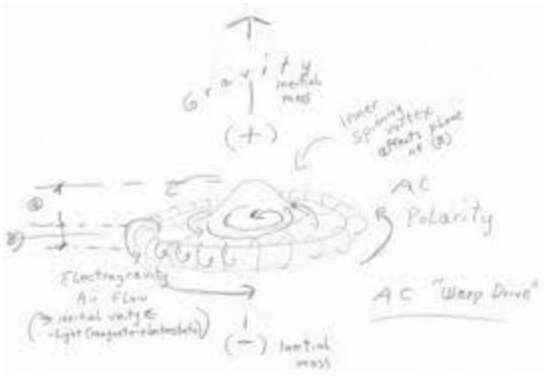

gravity amplifier head
Beam generator
upper deck
gravity wave guides
millimeter electromagnetic waves pulsed through the shell casing

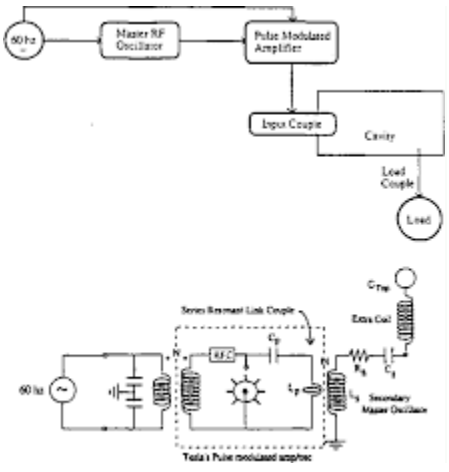


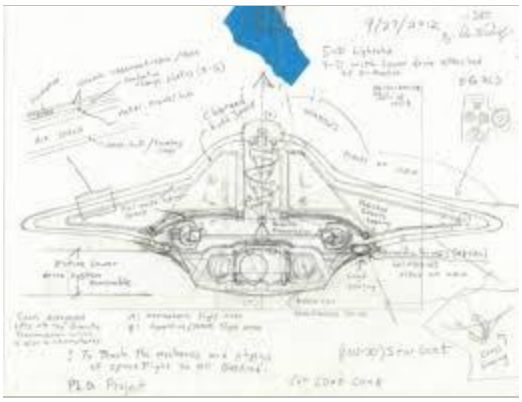


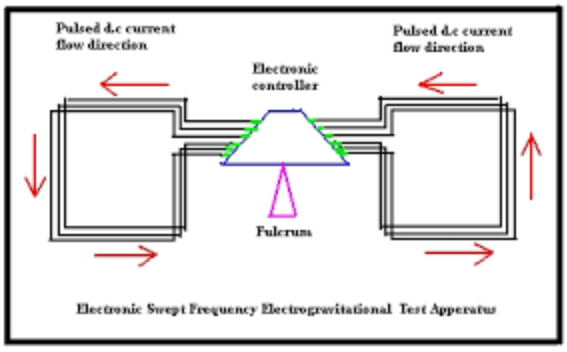

TESLA COILS
SERYUN
TÜRKİYENİN İLK TESLA BOBİNİ SİTESİ (c) 2007

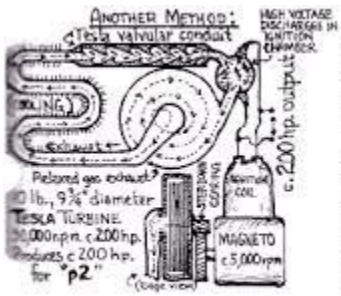



Gravity
inertial mass
(+)
AC
Polarity
Electrogravity
Air Flow
AC "Warp Drive"
(-) inertial mass


60 hz
Master RF Oscillator
Pulse Modulated Amplifier
Input Couple
Cavity
Load Couple
Load
Series Resonant Link Couple
Extra Coil
60 hz
Secondary Master Oscillator
Tesla's Pulse modulated amplifier





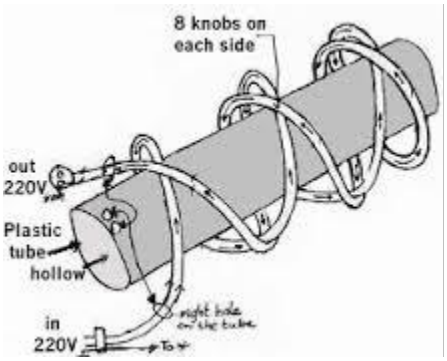


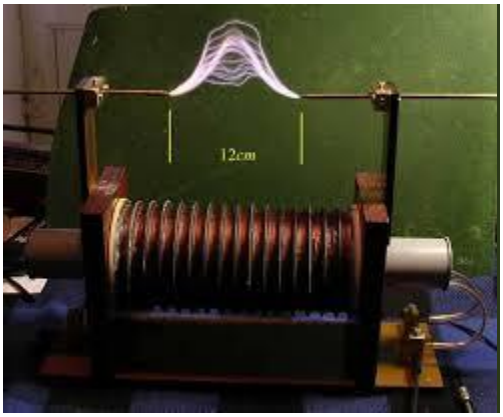
THE HELIUM REACTION:

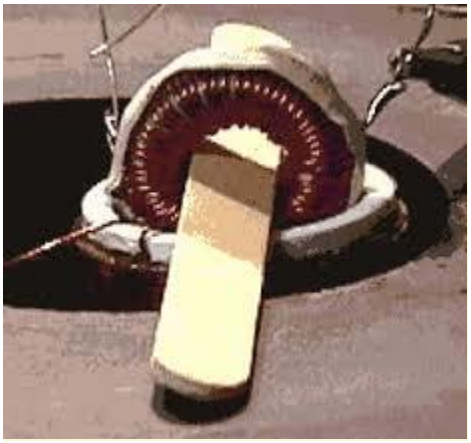
The He is excited by electron bombardment (electrical discharge from a Van de Graaff). This may also be produced in the trigatron. The helium unpairs its electrons, promotes one electron to the 2s state, and releases 460 Kcal/g-atom (roughly equivalent to the energy in 460 loaves of bread from each g-atom of helium, more than enough energy to run a freight train).

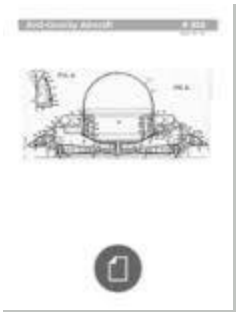
As for the question of whether or not Germany could have obtained helium, read Charles Higham's *Trading With the Enemy*. Otherwise, helium can be artificially produced by bombardment of Li or boron by high velocity photons or alpha rays. A Tesla bath would do fine. Actually, bombardment of any element below At. No. 19 with a Tesla bath will produce helium.

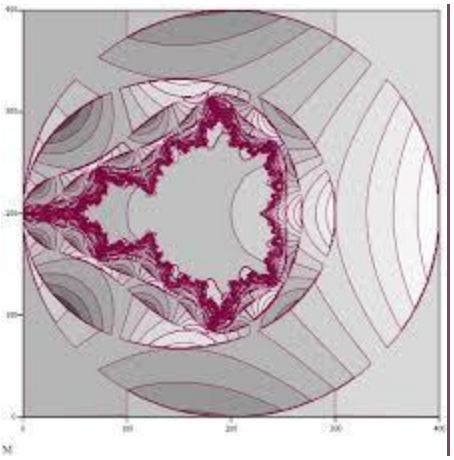
Trogltrons used in German ships fed with helium, to produced the propulsive electrical discharges is likely, since I have found so many trigatrons related to flying saucer salvage, and that kind of power produced at the place of usage (the surface of the ships) would explain the brightness of the discharges.

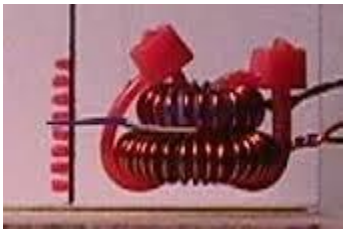




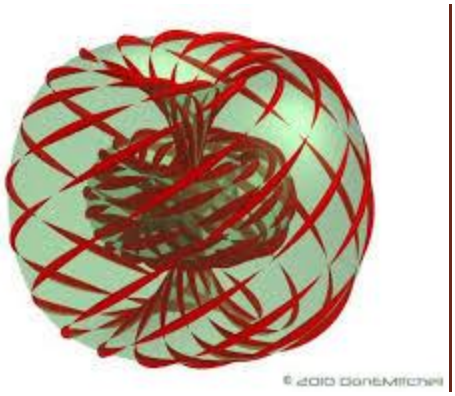






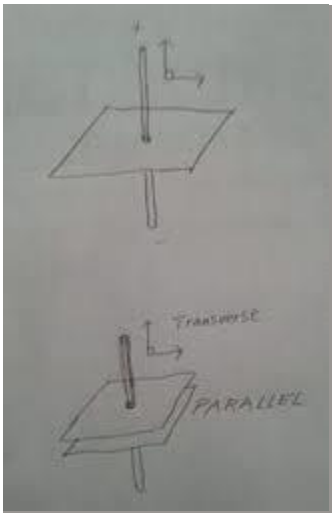






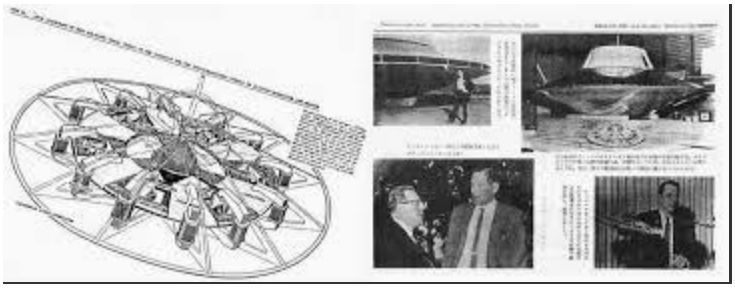

MOORISH AMERICAN
CIVICS GUIDE


2cm Iron Wire

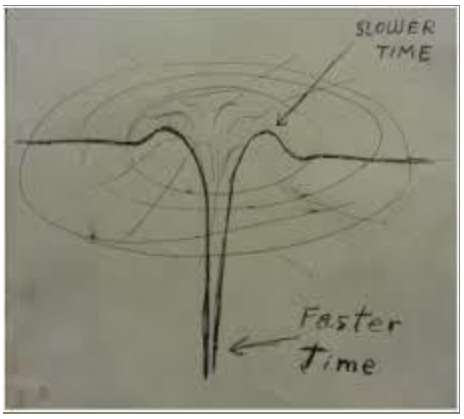

TRANSVERSE
PARALLEL

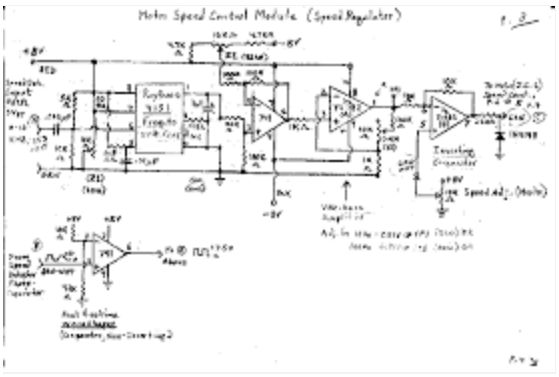






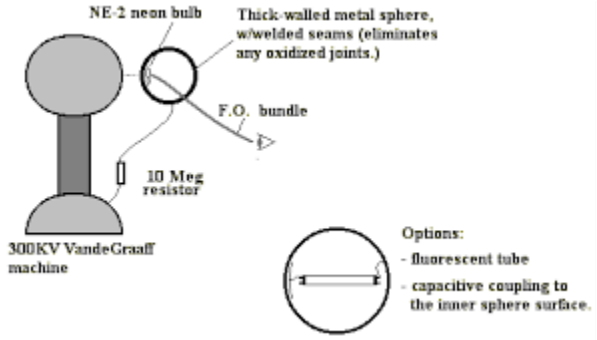


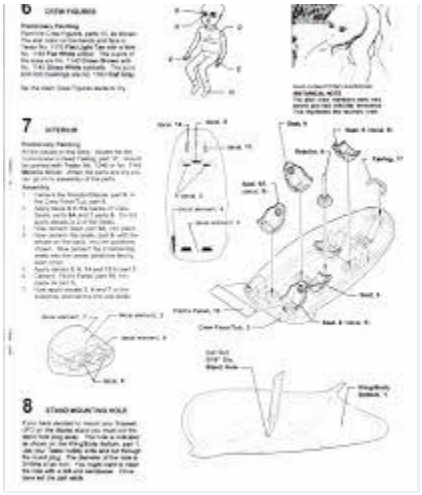

SLOWER TIME
Faster Time


Motor Speed Control Module (Speed Regulator)






NE-2 neon bulb
Thick-walled metal sphere, w/welded seams (eliminates any oxidized joints.)
F.O. bundle
10 Meg resister
300KV VandeGraaff machine
Options:
- fluorescent tube
- capacitive coupling to the inner sphere surface.








TEC

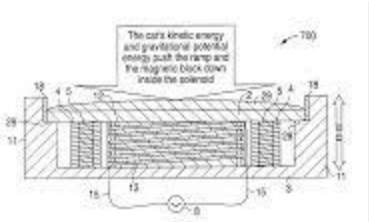

The cars kinetic energy and gravitational potential energy push the ramp and the magnetic block down inside the solenoid
700

FIG. 8

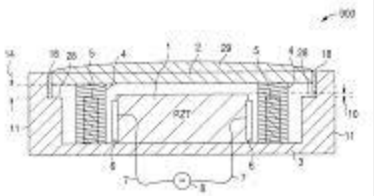
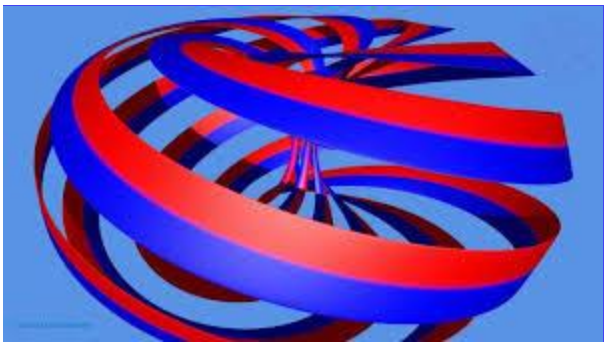
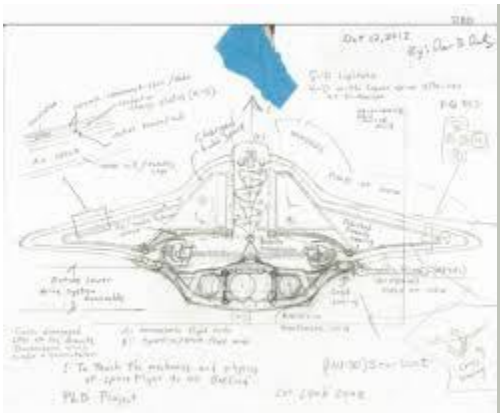
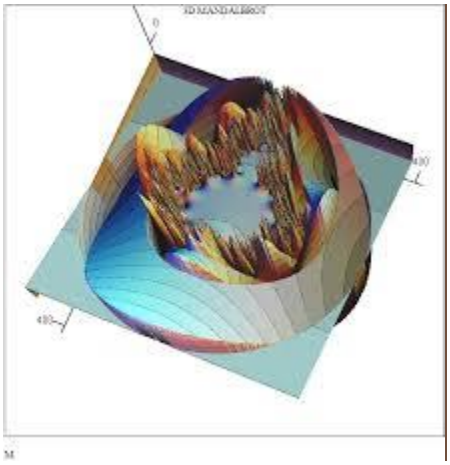

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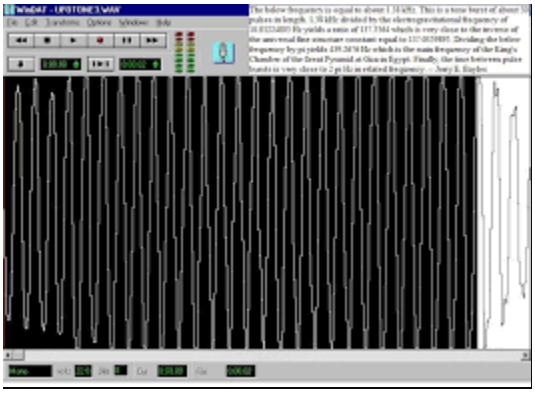
FIG. 9



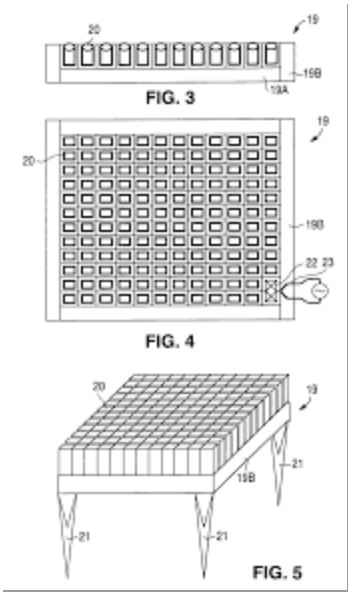






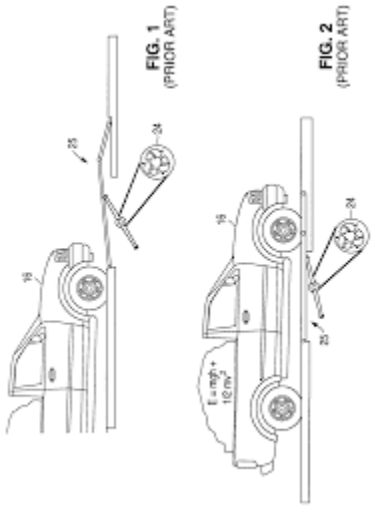



OVAL TECH


20
19
19B
13A
FIG. 3
20
19
19B
22
23
FIG. 4
20
19
19B
21
21
21
FIG. 5

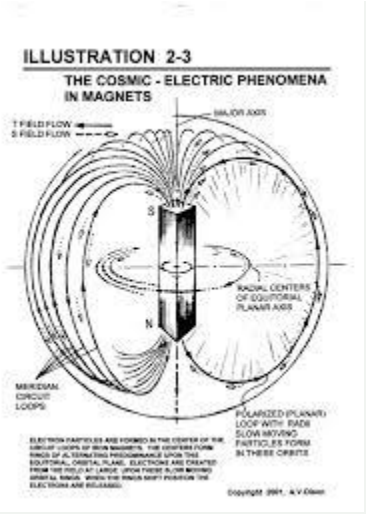


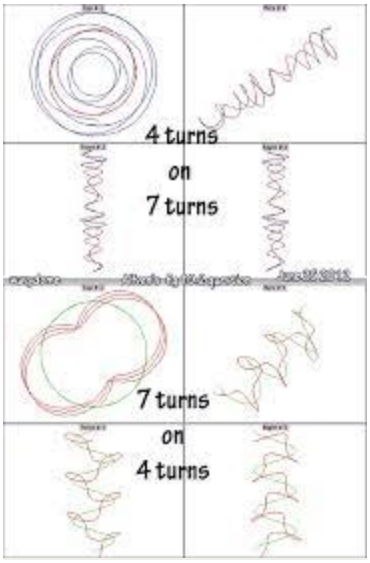
ANTIGRAVITY PROPULSION DEVICES

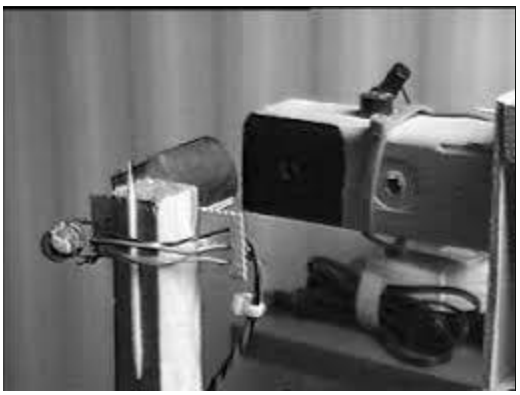






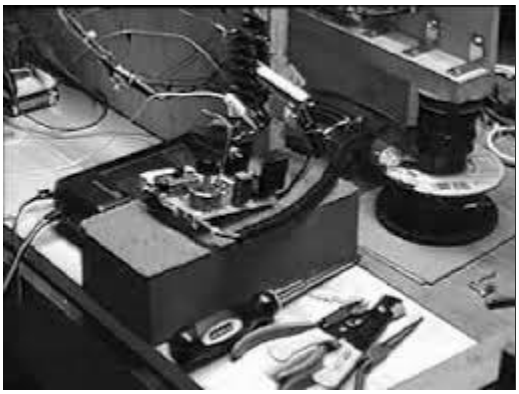






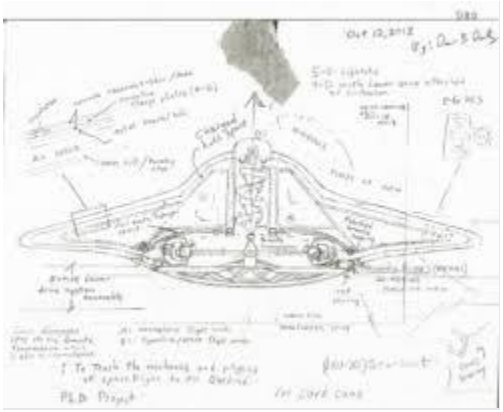

FREE ENERGY COIL TESTED
ON LED, LAMP AND MOTOR

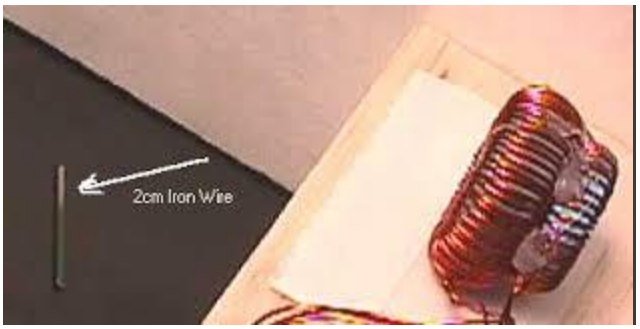




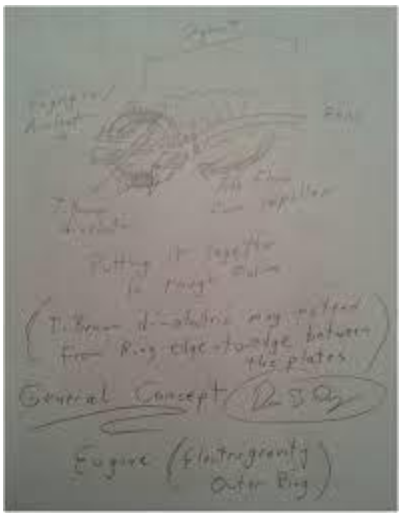







2cm Iron Wire

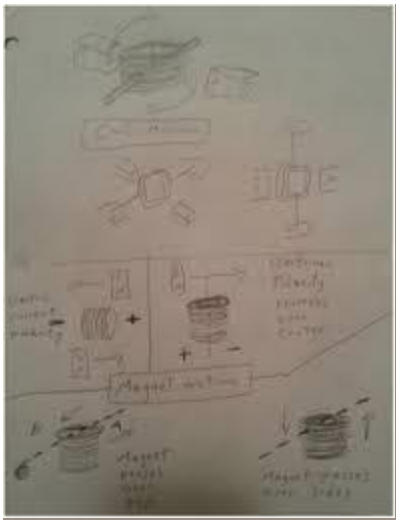


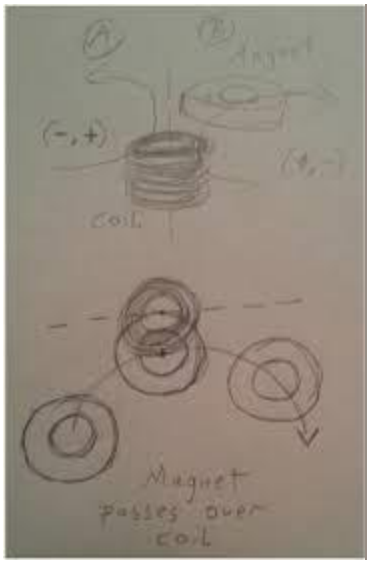

Putting it together
(Tesla coil - solenoid may extend from Ring electrostatic between the plates)
General Concept
Engine (Electrogravity Outer Ring)

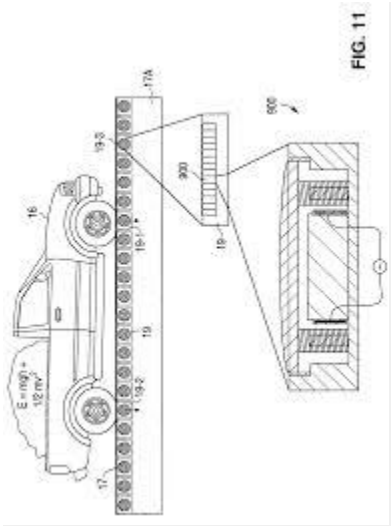




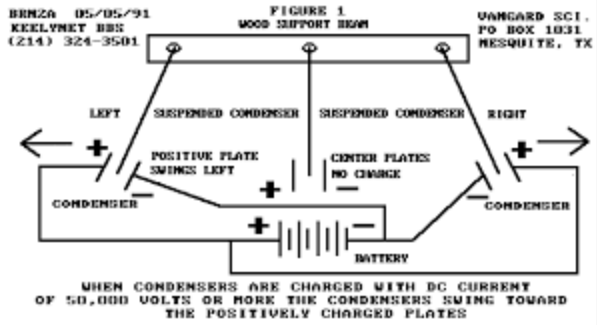


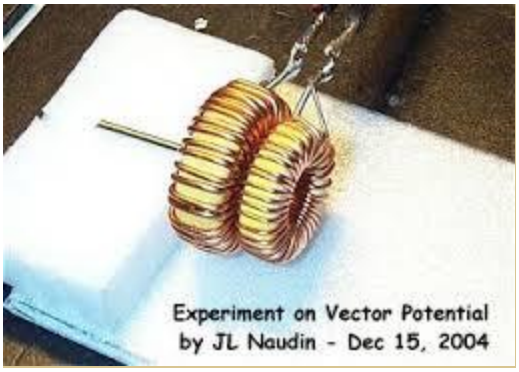


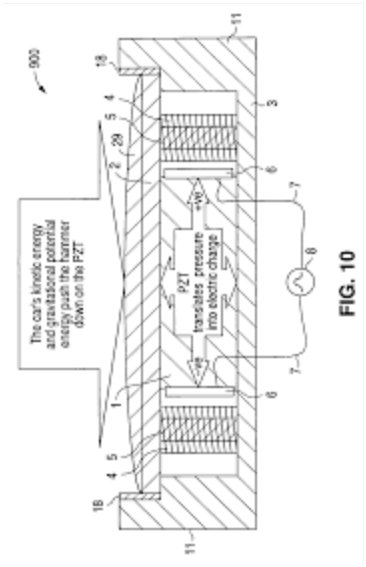

Coil
Magnet passes over Coil

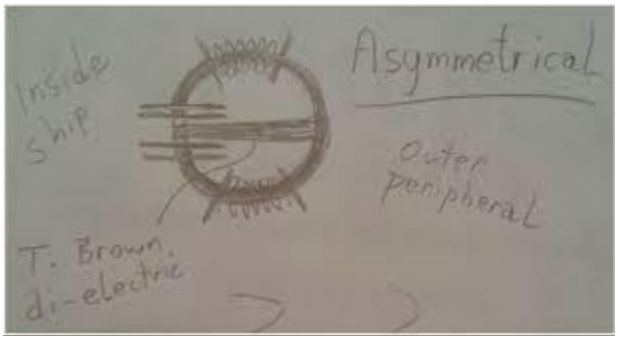

FIG. 11


The Power Coil
The Power Coil
The Feedback Coil
The Zeff Cook's device
Built and tested by JL Naudin
Oct 2, 2003 - http://www.jlnlabs.org

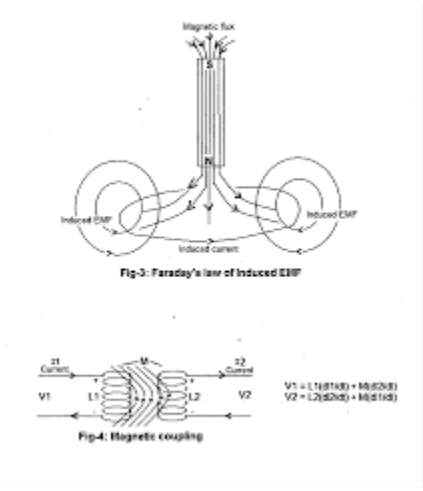

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KEELYNET BBS
(214) 324-3501
FIGURE 1
WOOD SUPPORT BEAM
VANGARD SCI.
PO BOX 1831
MESQUITE, TX
LEFT
SUSPENDED CONDENSER
SUSPENDED CONDENSER
RIGHT
POSITIVE PLATE SWINGS LEFT
CENTER PLATES NO CHARGE
CONDENSER
CONDENSER
BATTERY
WHEN CONDENSERS ARE CHARGED WITH DC CURRENT OF 50,000 VOLTS OR MORE THE CONDENSERS SWING TOWARD THE POSITIVELY CHARGED PLATES

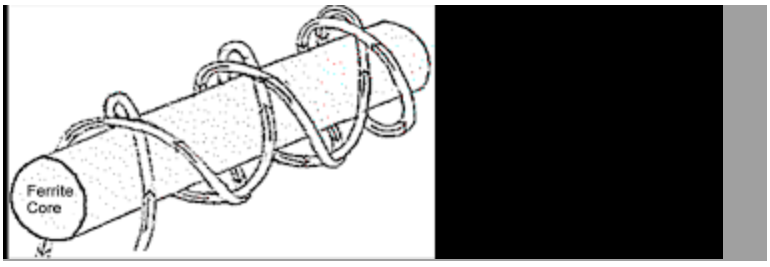

Experiment on Vector Potential
by JL Naudin - Dec 15, 2004

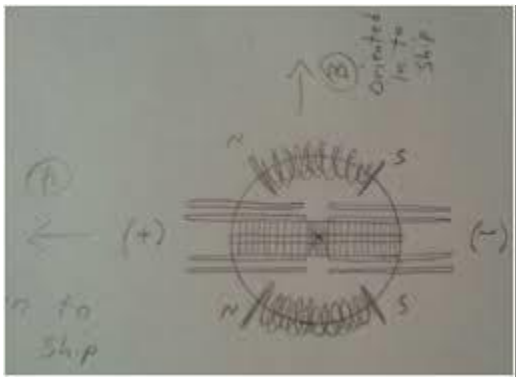

The car's kinetic energy and gravitational potential energy push the hammer down on the PZT
PZT translates pressure into electric charge
FIG. 10

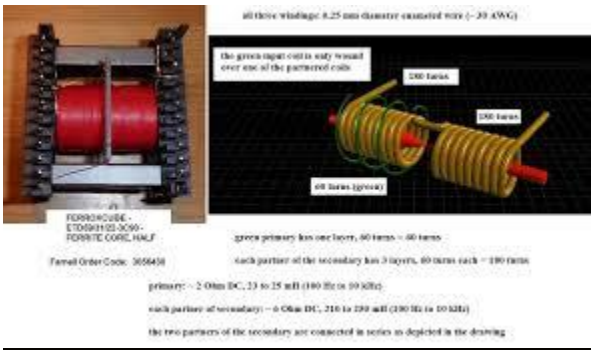

Inside ship
Asymmetrical
Outer peripheral
T. Brown.
di-electric

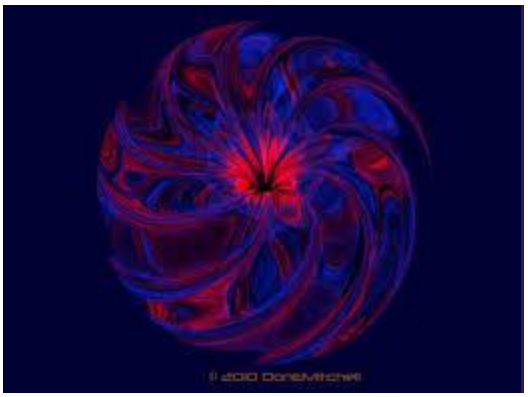


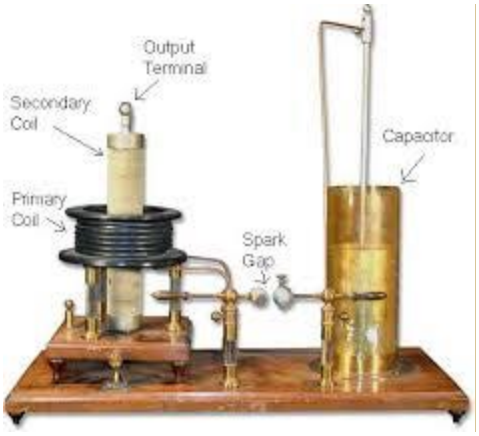

Magnetic flux
Induced EMF
Induced EMF
Induced current
Fig-3: Faraday's law of Induced EMF
Current
Current
V1
L1
L2
V2
Fig-4: Magnetic coupling

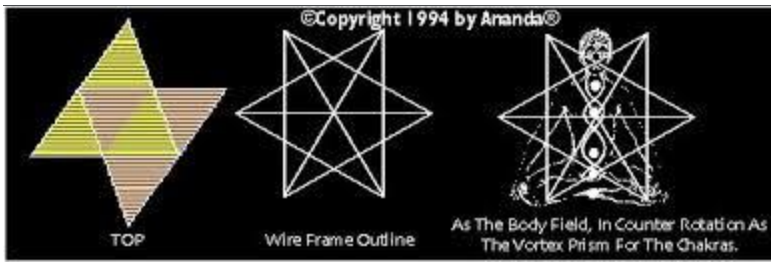

Ferrite Core

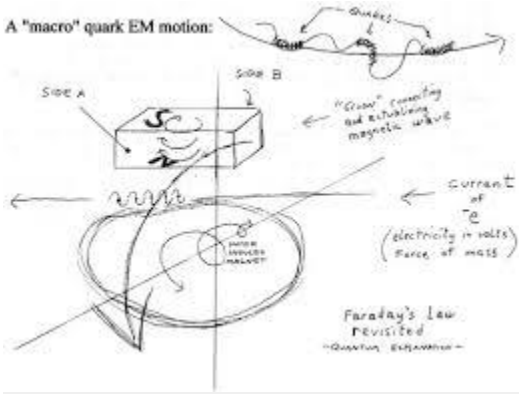

Oriented as ship
(+)
(-)
S
N
S
N
to ship

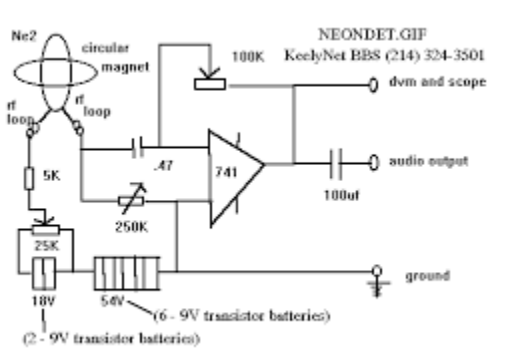

all three windings: 0.25 mm diameter enameled wire (~ 30 AWG)
the green input coil is only wound over one of the partnered coils
100 turns
100 turns
60 turns (green)
FERROXCUBE - ETD59/31/22-3C90 - FERRITE CORE, HALF
Farnell Order Code: 3656436
green primary has one layer, 60 turns = 60 turns
each partner of the secondary has 3 layers, 60 turns each = 180 turns
primary: ~ 2 Ohm DC, 23 to 25 mH (100 Hz to 10 kHz)
each partner of secondary: ~ 6 Ohm DC, 210 to 230 mH (100 Hz to 10 kHz)
the two partners of the secondary are connected in series as depicted in the drawing

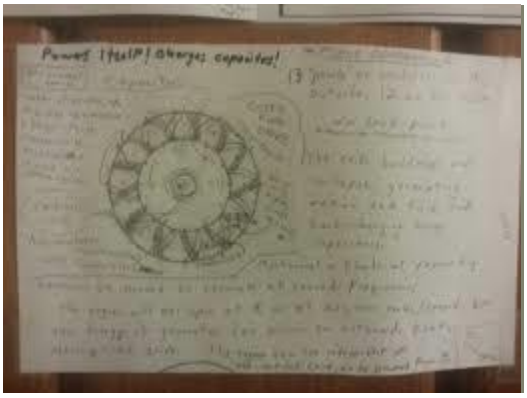

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Output Terminal
Secondary Coil
Capacitor
Primary Coil
Spark Gap

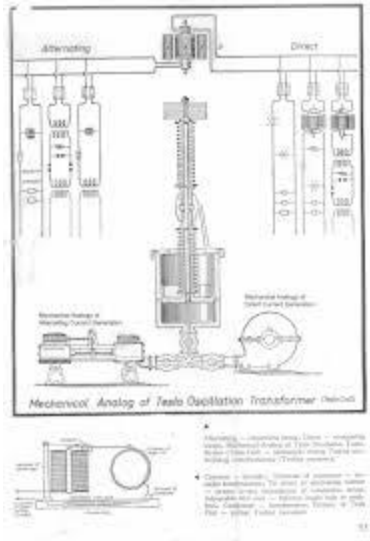

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TOP
Wire Frame Outline
As The Body Field, In Counter Rotation As The Vortex Prism For The Chakras.

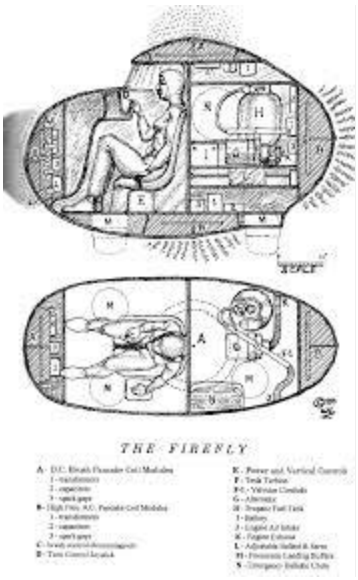

A "macro" quark EM motion:
Side A
Side B
current of e
(electricity in volts / force of mass)
Faraday's law revisited

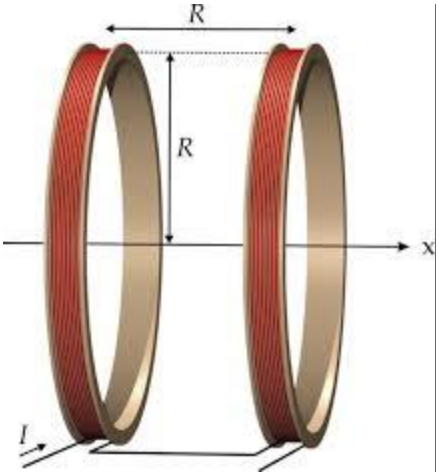

Ne2
circular magnet
rf loop
rf loop
100K
NEONDET.GIF
KeelyNet BBS (214) 324-3501
dvm and scope
audio output
5K
.47
741
100uf
250K
25K
18V
54V
ground
(6 - 9V transistor batteries)
(2 - 9V transistor batteries)

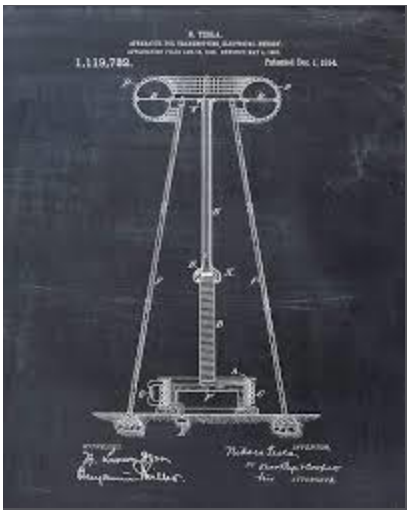

Power (volts/P) charges capacitor!



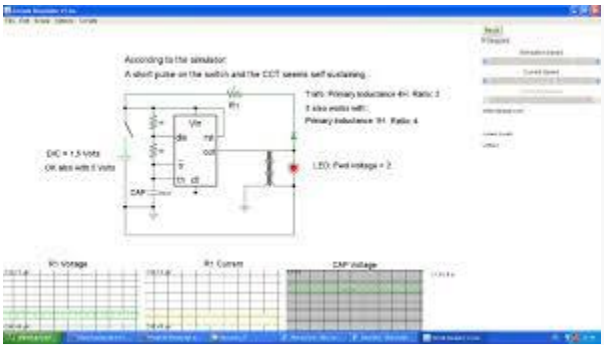

Alternating
Direct
Mechanical Analog of Tesla Oscillation Transformer


THE FIREFLY

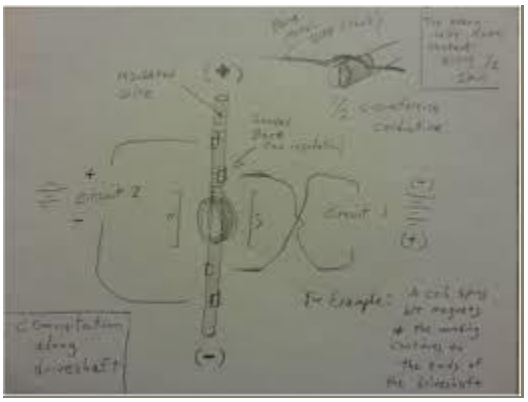

R
R
x
I


1,119,732.


BIEFELD BROWN EFFECT PROPULSION 3a

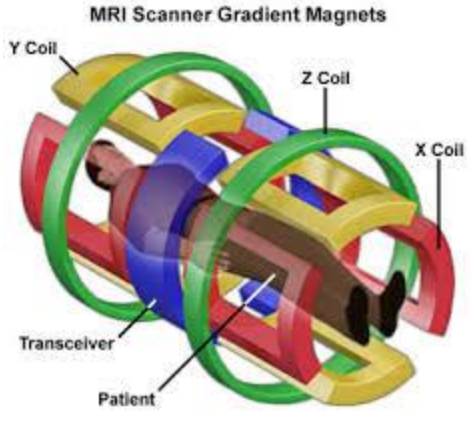


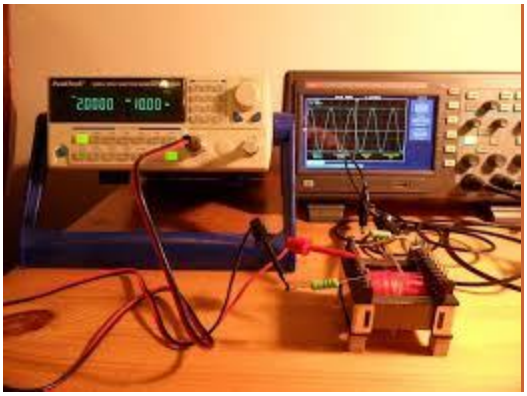








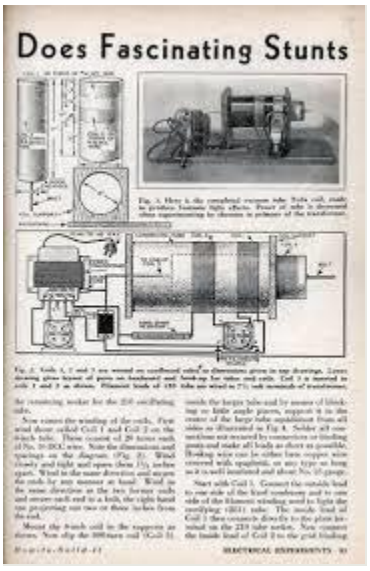

MRI Scanner Gradient Magnets
Y Coil
Z Coil
X Coil
Transceiver
Patient

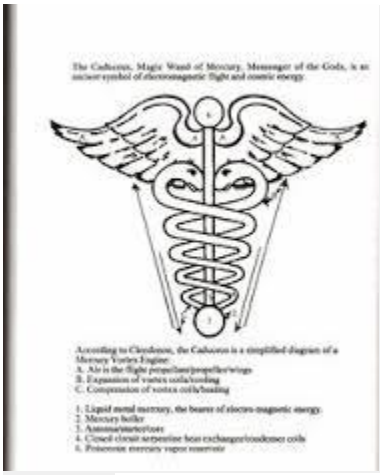


blue Nobel badge, issued to synchro1

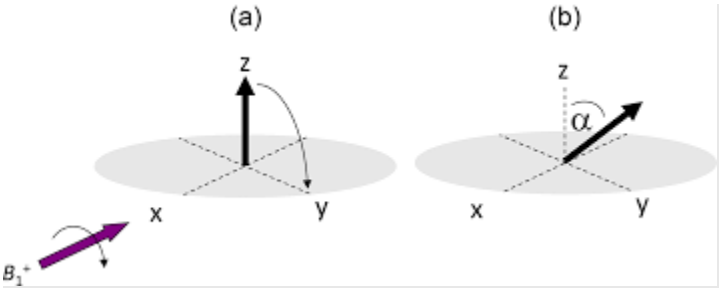




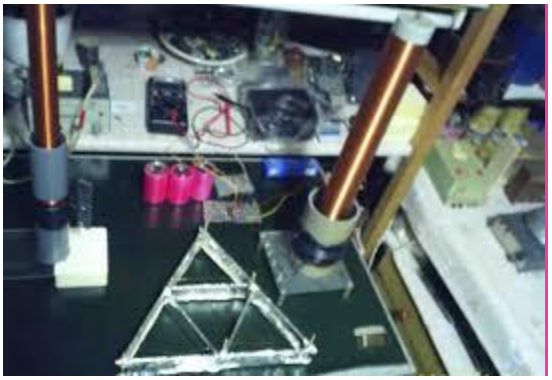


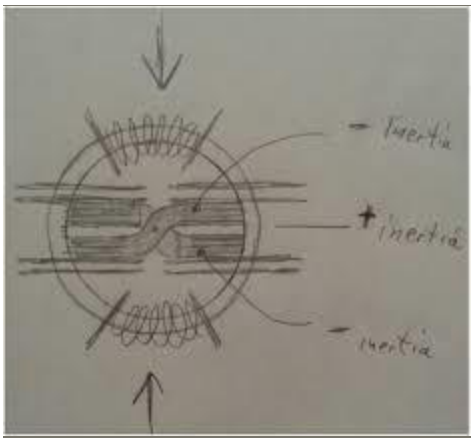


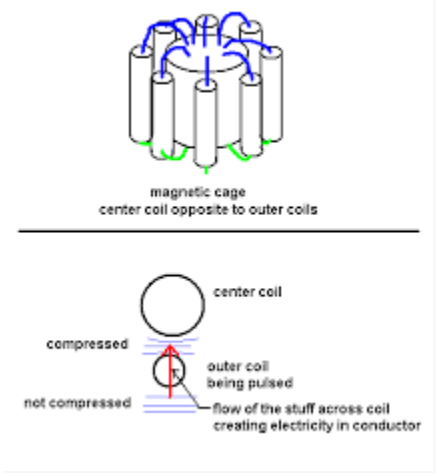
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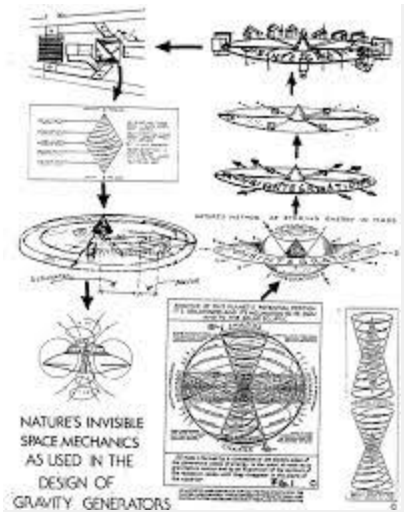

- Inertia
+ Inertia
- Inertia


magnetic cage
center coil opposite to outer coils
center coil
compressed
outer coil
being pulsed
not compressed
flow of the stuff across coil
creating electricity in conductor






I FINALLY FINISHED MY TESLA COIL!
GZZZZZZ
COOL. BUT-
CHECK THIS OUT!
GZZZZZZ
HOW DID YOU DO THAT?
THE WORLD DOESN'T ACTUALLY MAKE SENSE.
SCIENCE DOESN'T WORK.
NO ONE TOLD YOU BECAUSE YOU'RE SO CUTE WHEN YOU GET INTO SOMETHING.
STILL, NEAT TOY.
NOW YOU'RE HOVERING!
I GUESS YOU'RE STILL NOT GETTING THIS.


NATURE'S INVISIBLE SPACE MECHANICS AS USED IN THE DESIGN OF GRAVITY GENERATORS

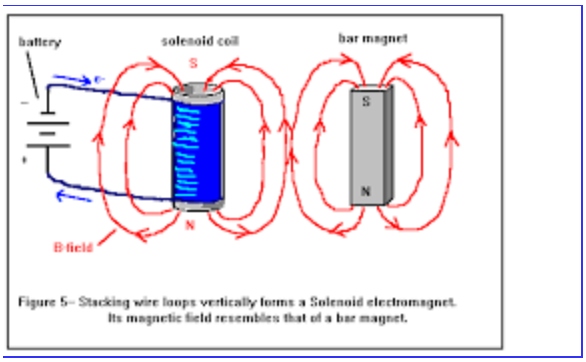
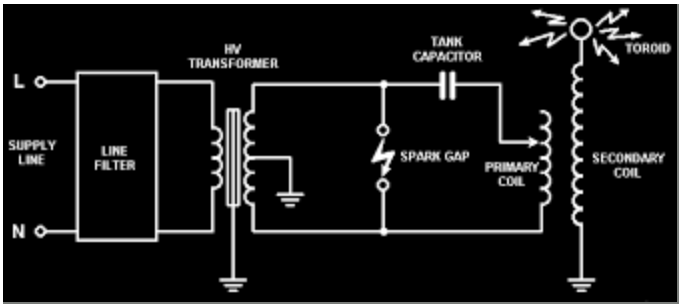


Figure 5– Stacking wire loops vertically forms a Solenoid electromagnet. Its magnetic field resembles that of a bar magnet.





ELECTRONEGATIVITY EFFECTS :-

- The chemical shift simply increase as the electronegativity of the attached element increases.
- Following table illustrates this relationship for several compounds of the type CH_3X.

DEPENDENCE OF THE CHEMICAL SHIFT OF CH_3X ON THE ELEMENT X

Compound CH_3X	CH_3F	CH_3OH	CH_3Cl	CH_3Br	CH_3I	CH_4	$(CH_3)_4Si$
Element X	F	O	Cl	Br	I	H	Si
Electronegativity of X	4.0	3.5	3.1	2.8	2.5	2.1	1.8
Chemical shift δ	4.26	3.40	3.05	2.68	2.16	0.23	0

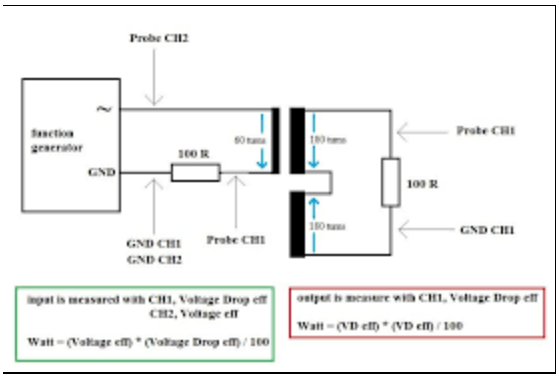




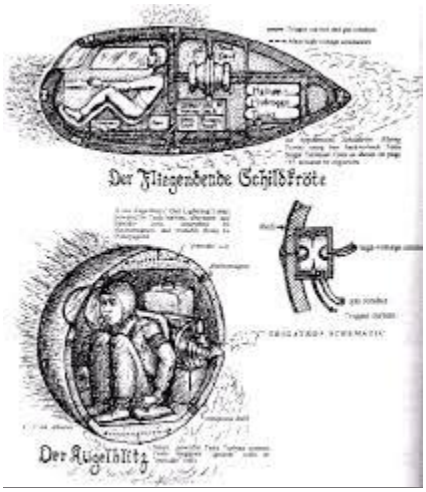
Spinning Rotor Emits Changing Corona Discharge in Fascinating Stunt






Probe CH2
function generator
GND
100 R
60 turns
180 turns
Probe CH1
100 R
180 turns
GND CH1
GND CH1
GND CH2
Probe CH1
input is measured with CH1, Voltage Drop eff
CH2, Voltage eff
Watt = (Voltage eff) * (Voltage Drop eff) / 100
output is measure with CH1, Voltage Drop eff
Watt = (VD eff) * (VD eff) / 100


Zugkraft der Gravitation
Schubkraft der Strahlung
©Genius Verlag 2001


Der Fliegende Schildkröte
Der Kugeltitz

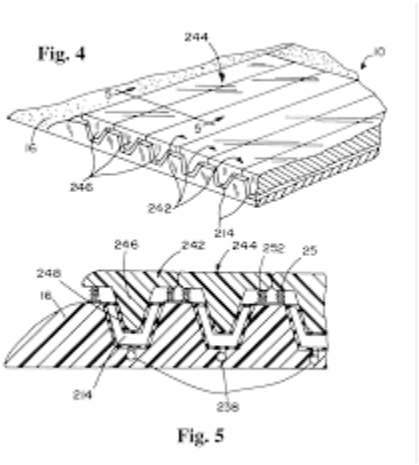
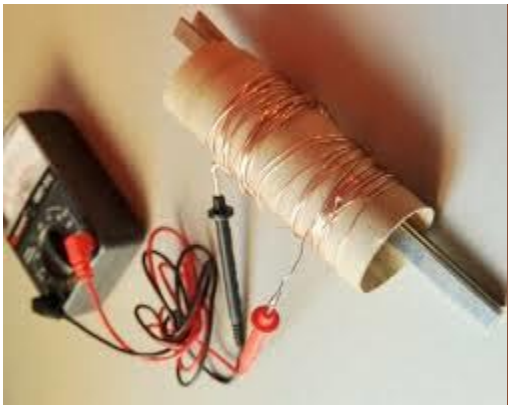
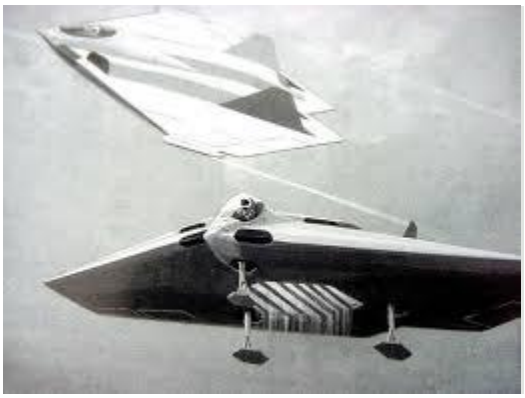
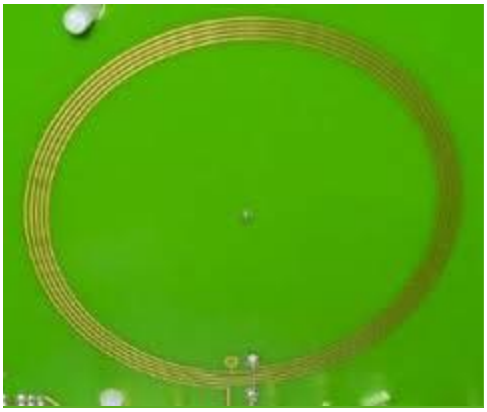

Fig. 4
244
10
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214
266
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244
252
25
248
16
214
238

Fig. 5



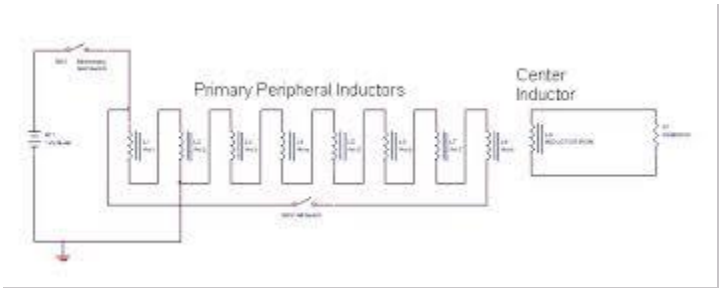




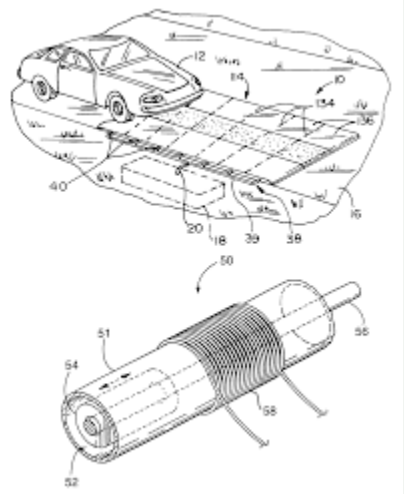

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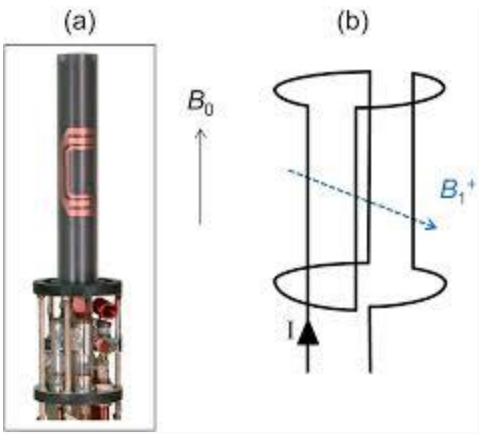

BIEFELD BROWN EFFECT PROPULSION 3b

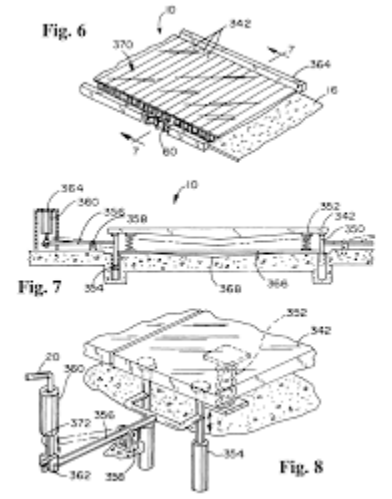

ON SCALAR WAVES
On Scalar Waves

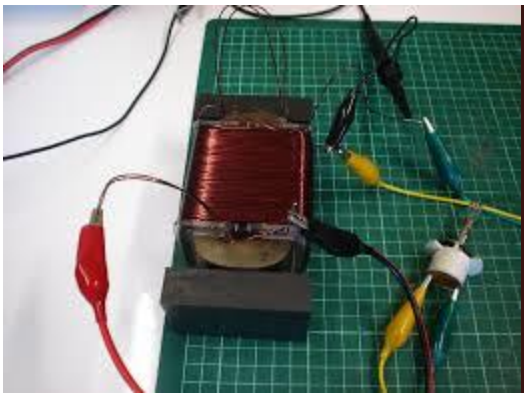

Primary Peripheral Inductors
Center Inductor

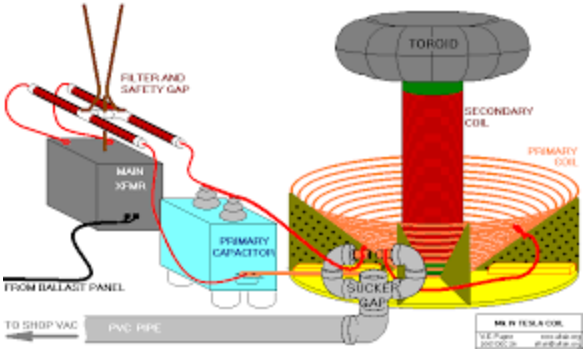


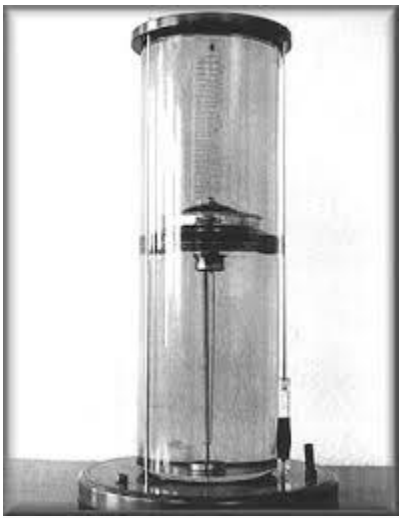



(a)
(b)
B_0
B_1
I

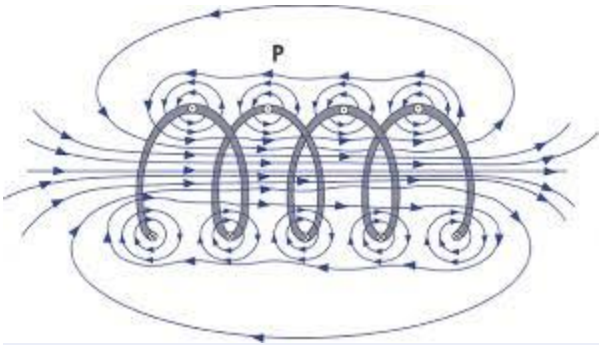

Fig. 6
Fig. 7
Fig. 8



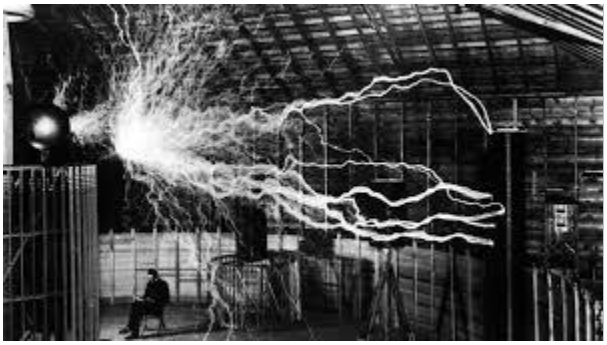


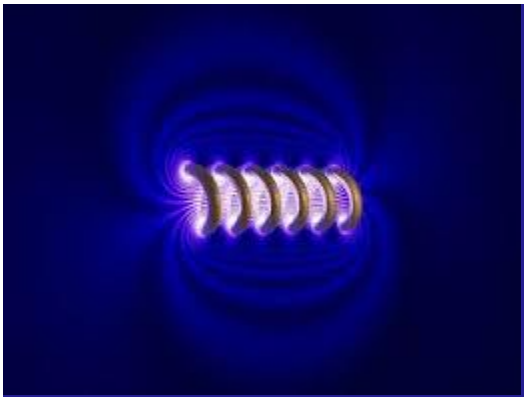


Ancient CODE
...en Español.

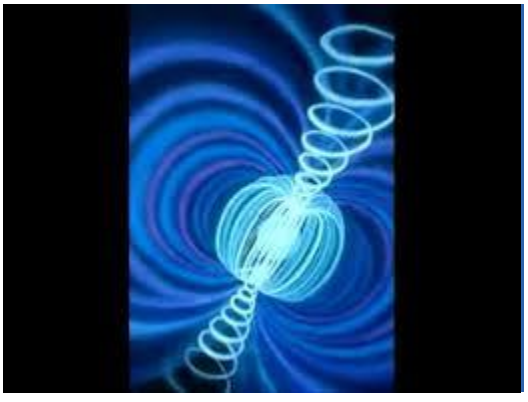


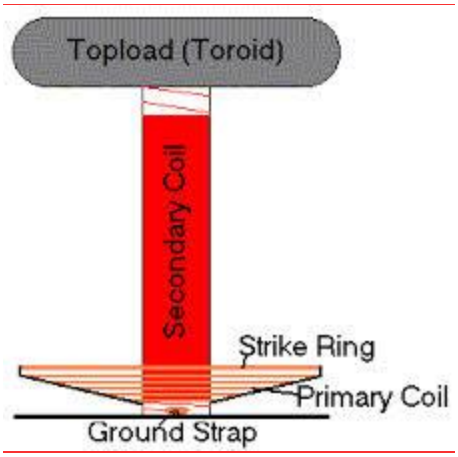
















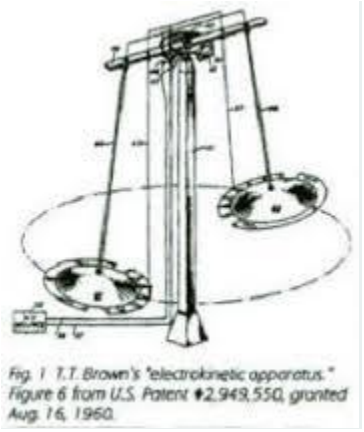
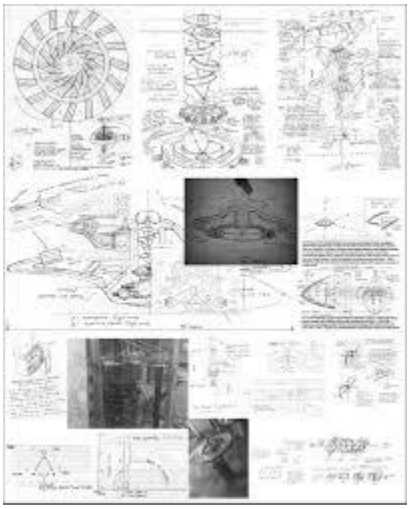


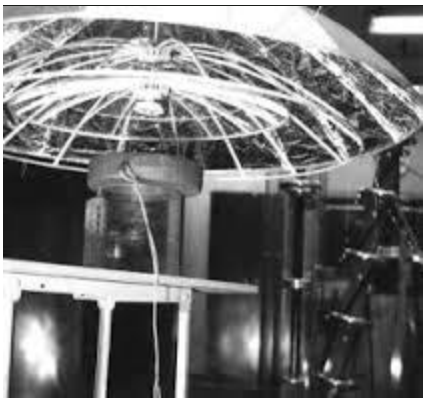
Fig. 1 T.T. Brown's "electrokinetic apparatus." Figure 6 from U.S. Patent #2,949,550, granted Aug. 16, 1960.

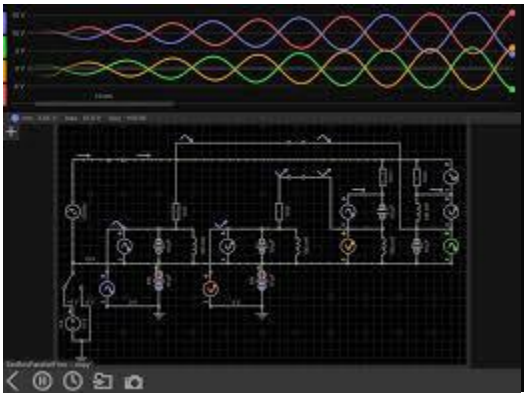






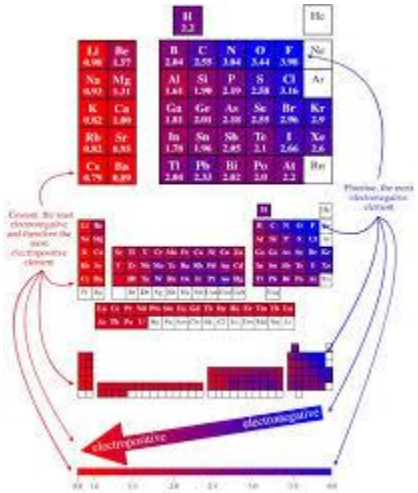








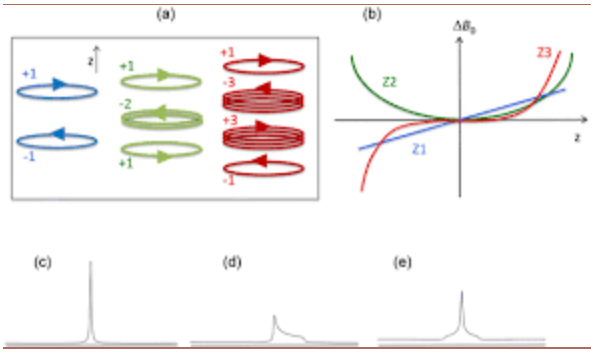


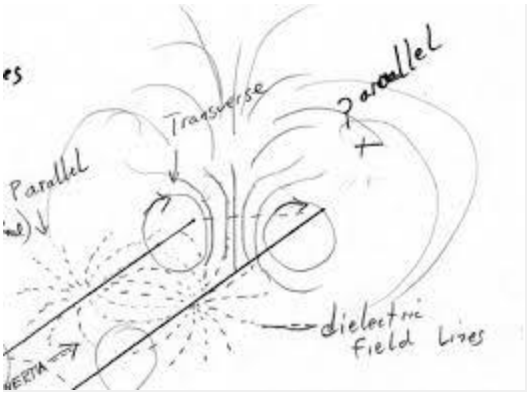


$$\mathcal{L}_{\mathrm{M}} = \mathcal{L}_{\rho} + \mathcal{L}_{em} = -\rho c^2 - \frac{\alpha_g c^2}{4\mu_0} F_{\mu\nu} F^{\mu\nu},$$

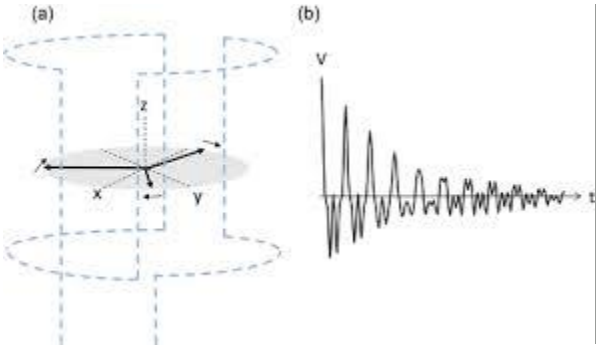
$$T_{\mu\nu} = g_{\mu\nu} \mathcal{L}_{\mathrm{M}},$$

$$T_{\mu\nu} = -g_{\mu\nu} \rho c^2 - g_{\mu\nu} \frac{\alpha_g c^2}{2\mu_0} \left(B^2 - \frac{E^2}{c^2} \right).$$



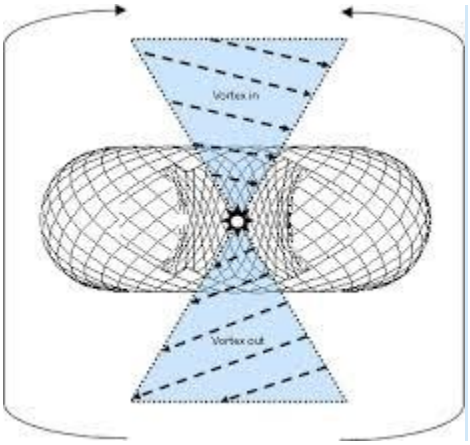

Transverse
Parallel
Parallel
dielectric
Field Lines

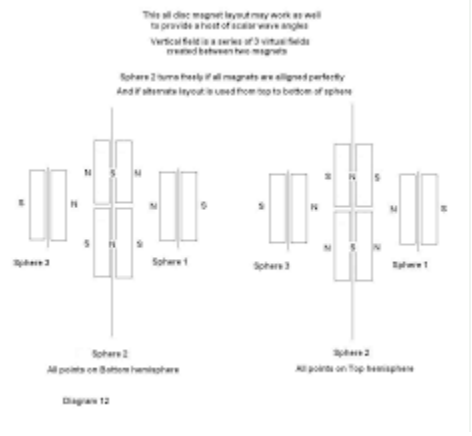


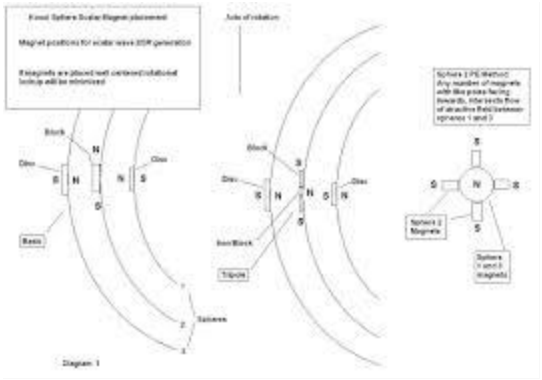

(a)
(b)
Z
X
Y
V
t

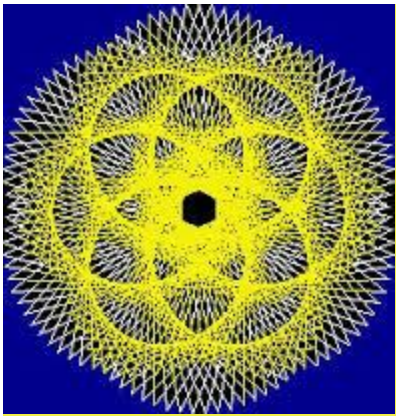

JLN labs 2003
Flower coil : 400 meters of 7/10 mm steel wire (zinc coated)

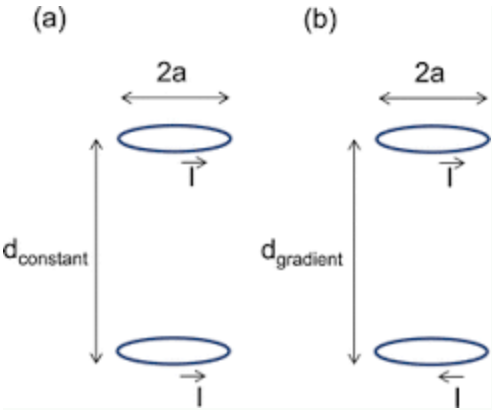

Power coil : 91 meters of 4/10 mm enameled copper wire

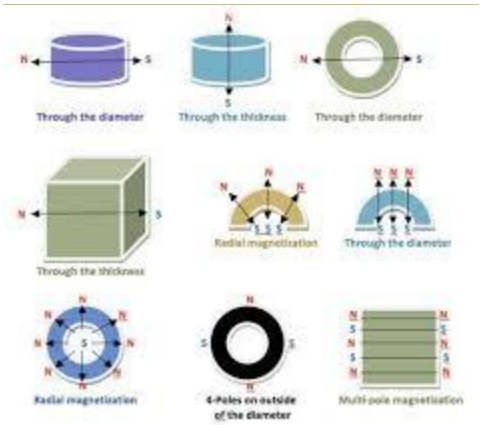

Vortex in
Vortex out


This all disc magnet layout may work as well
to provide a host of scalar wave angles
Vertical field is a series of 3 virtual fields
created between two magnets
Sphere 2 turns freely if all magnets are aligned perfectly
And if alternate layout is used from top to bottom of sphere
Sphere 3
Sphere 1
Sphere 2
All points on Bottom hemisphere
Sphere 3
Sphere 1
Sphere 2
All points on Top hemisphere
Diagram 12


Block
Disc
Base
Axis of rotation
Block
Disc
Iron Block
Tripole
Sphere 2 Magnets
Diagram 1







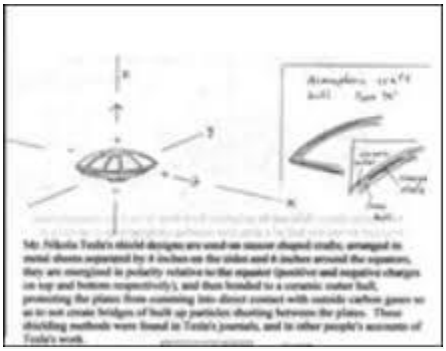
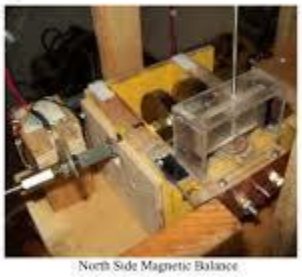


Fig. 3



North Side Magnetic Balance

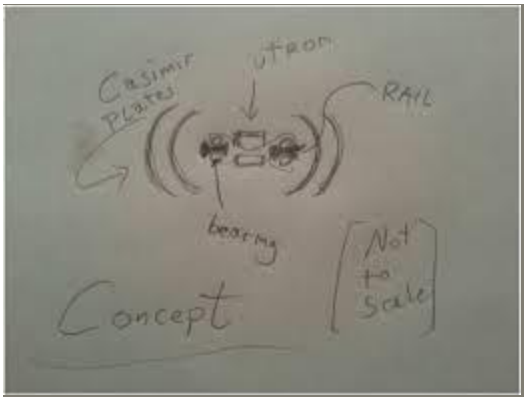
Fig. 4



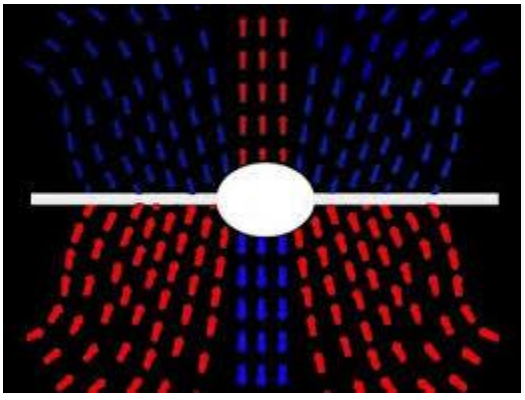
South Side Magnetic Balance



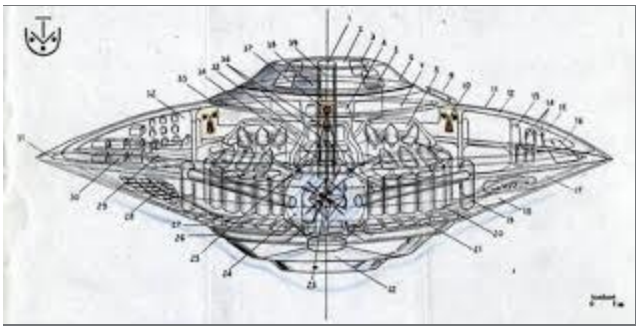


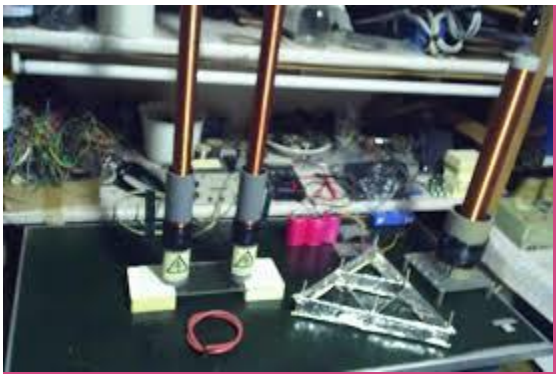






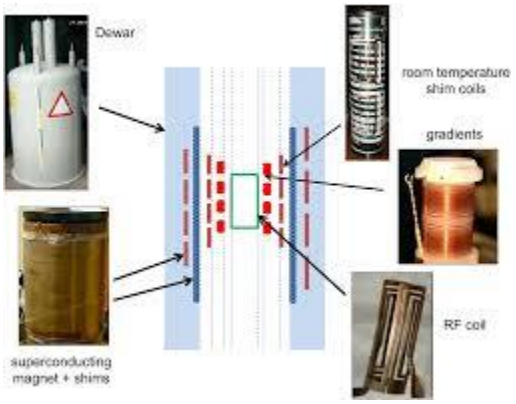

TESLA COIL POWERED FLYING SAUCER

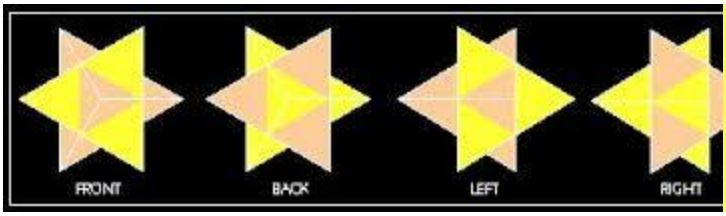


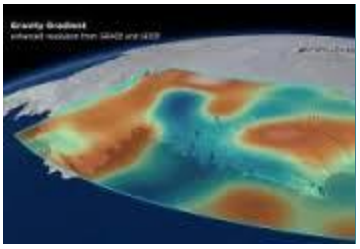




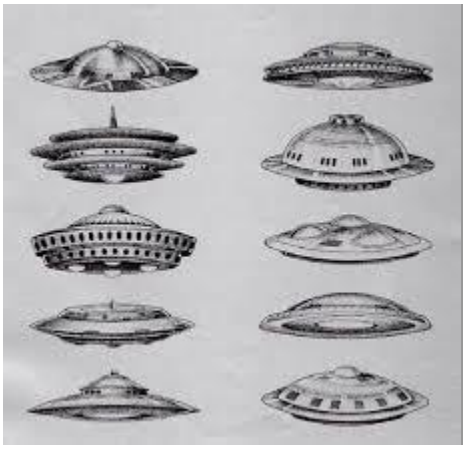


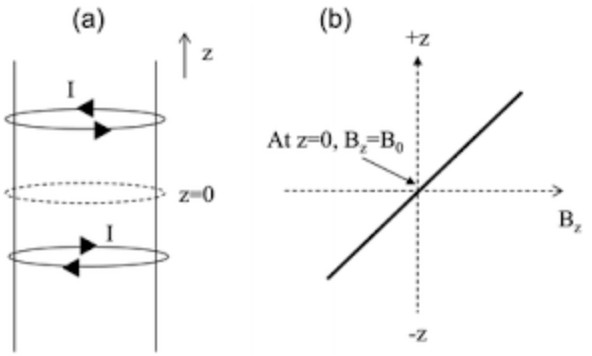

Dewar
room temperature shim coils
gradients
RF coil
superconducting magnet + shims

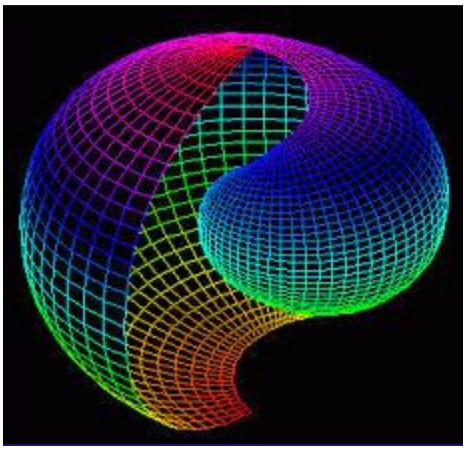

FRONT
BACK
LEFT
RIGHT

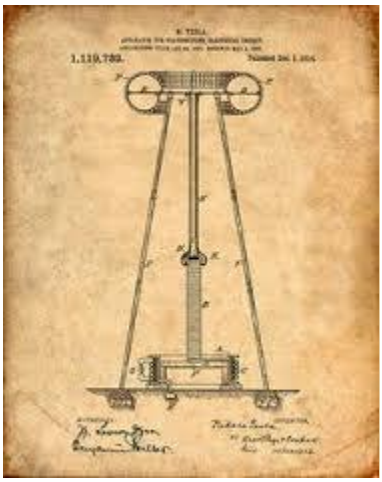




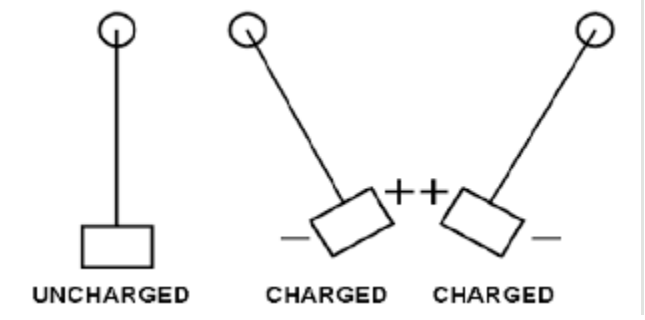



(a)
z
I
z=0
I
(b)
+z
At z=0, $B_z=B_0$
B_z
-z



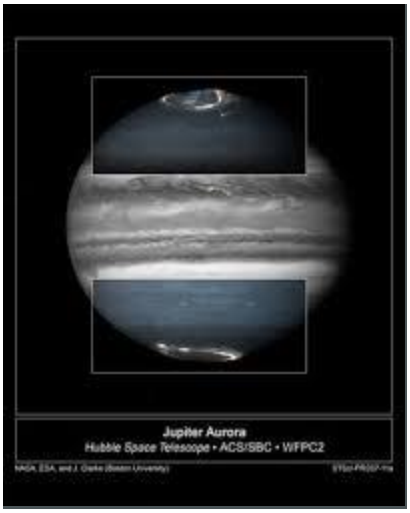


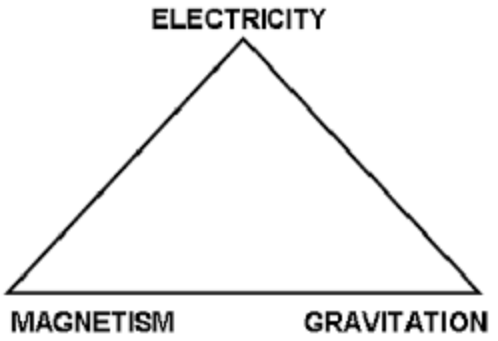



UNCHARGED
CHARGED
CHARGED

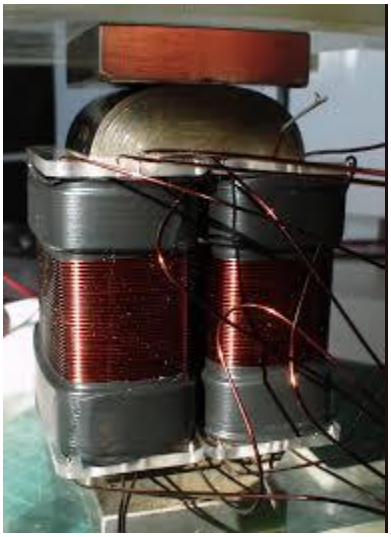


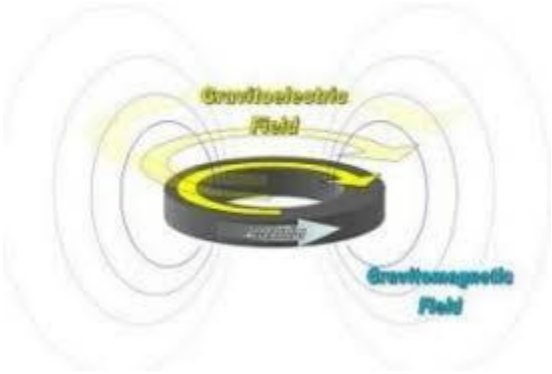



Jupiter Aurora
Hubble Space Telescope • ACS/SBC • WFPC2


ELECTRICITY
MAGNETISM
GRAVITATION

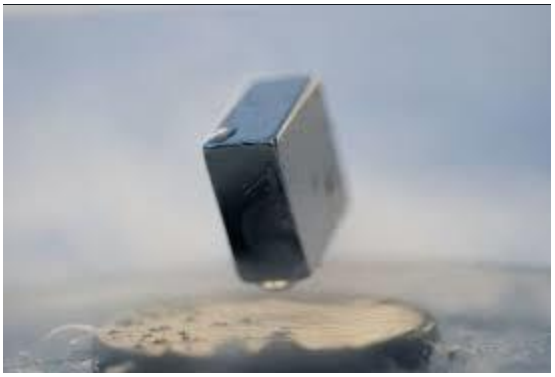


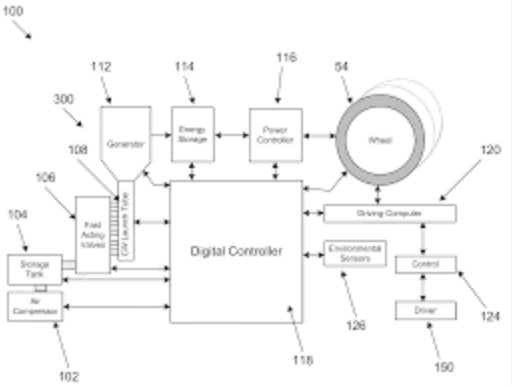



Gravitoelectric Field
Gravitomagnetic Field








100
112
114
116
54
300
108
120
106
104
Digital Controller
102
118
126
124
150

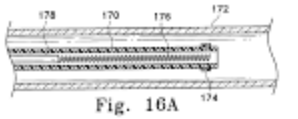


Fig. 16A



Fig. 16B

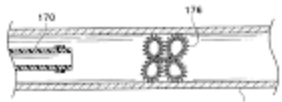
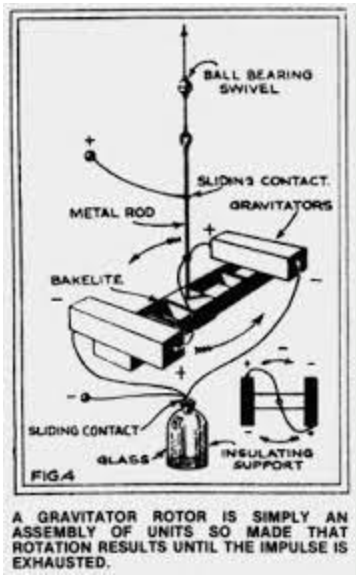


Fig. 16C







A GRAVITATOR ROTOR IS SIMPLY AN ASSEMBLY OF UNITS SO MADE THAT ROTATION RESULTS UNTIL THE IMPULSE IS EXHAUSTED.





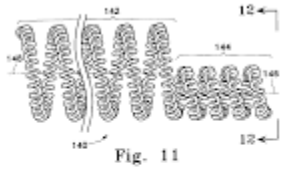


Fig. 11

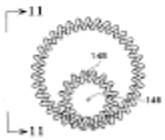
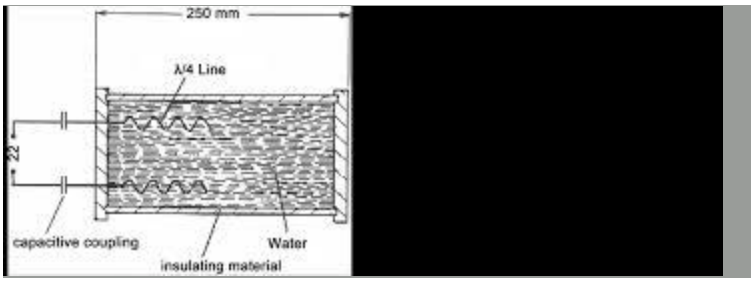
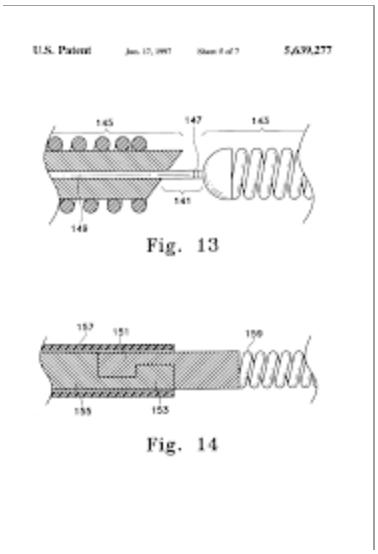


Fig. 12

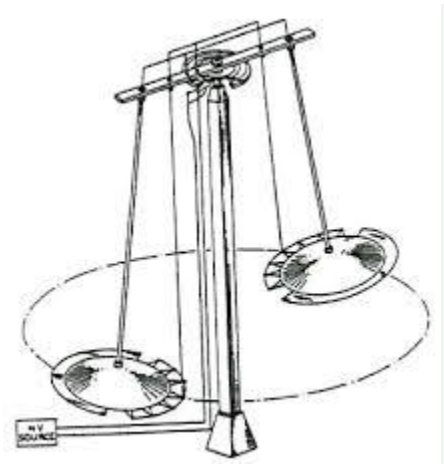


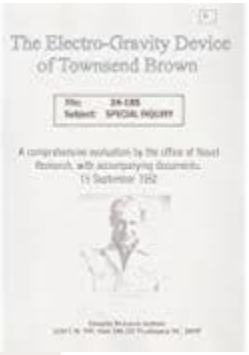

250 mm
λ/4 Line
22
capacitive coupling
Water
insulating material


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145
147
143
141
149
Fig. 13
157
151
159
155
153
Fig. 14

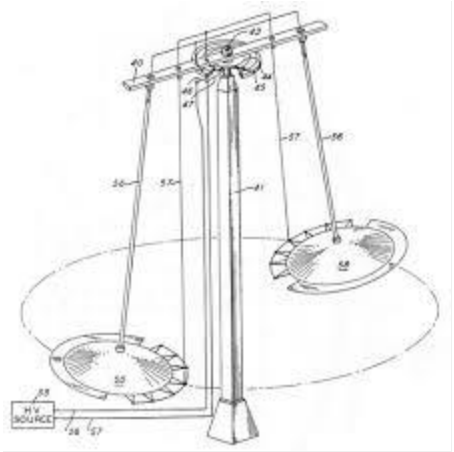





H.V. SOURCE


The Electro-Gravity Device of Townsend Brown

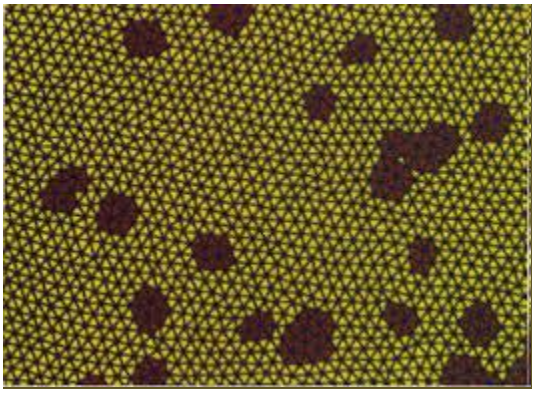
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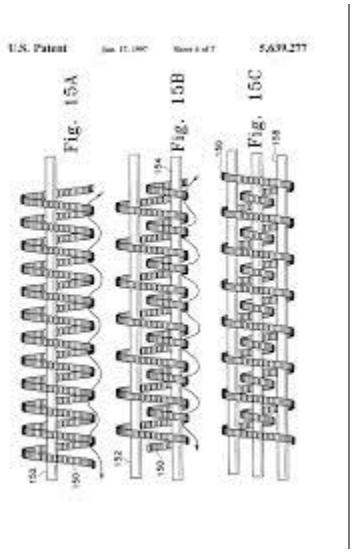

H.V. SOURCE

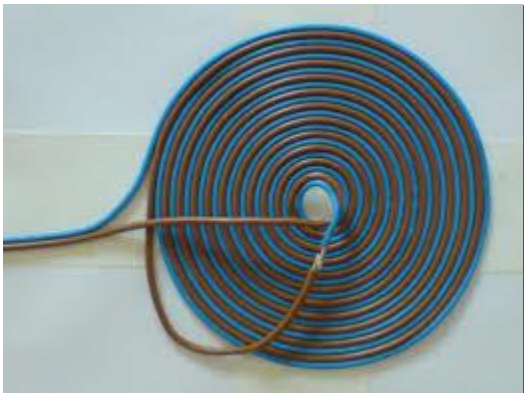


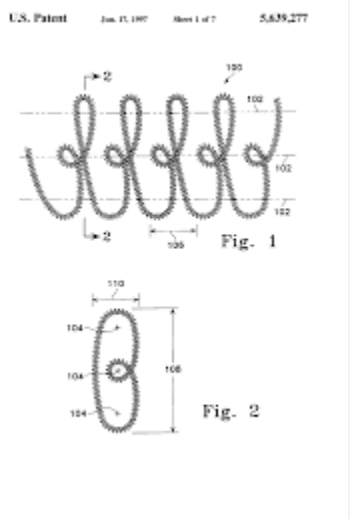

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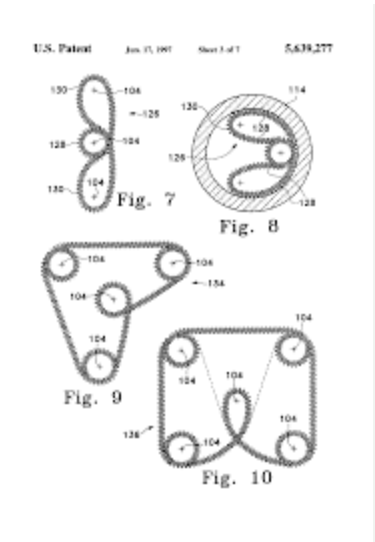


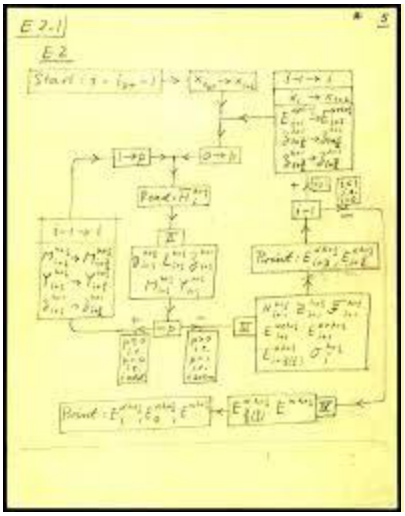



U.S. Patent
5,639,277
Fig. 15A
Fig. 15B
Fig. 15C

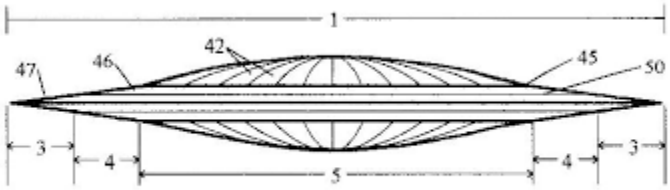


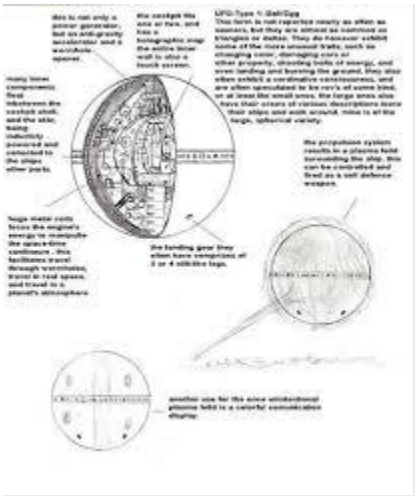

U.S. Patent
5,639,277
Fig. 1
Fig. 2

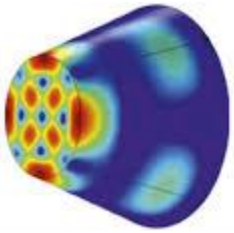

U.S. Patent
5,639,277
Fig. 7
Fig. 8
Fig. 9
Fig. 10

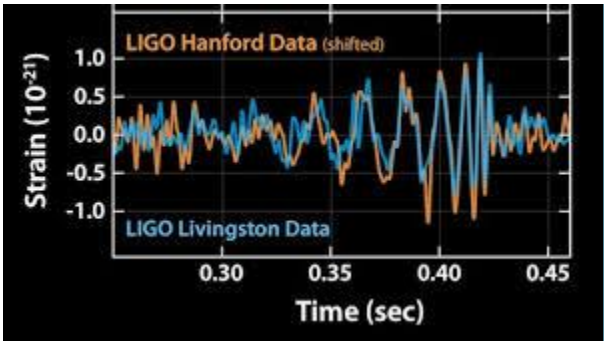


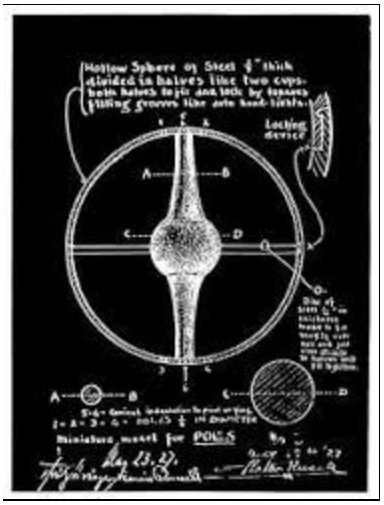


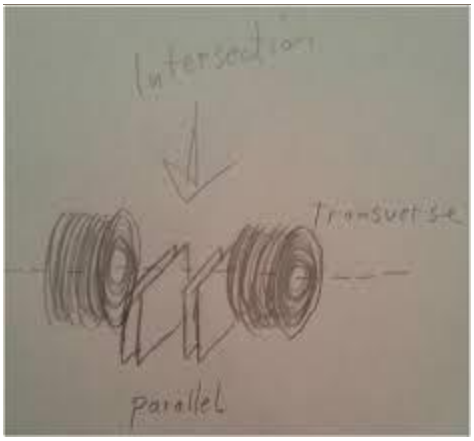

1
42
47
46
45
50
3
4
5
4
3






LIGO Hanford Data (shifted)
LIGO Livingston Data
Strain (10⁻²¹)
1.0
0.5
0.0
-0.5
-1.0
0.30
0.35
0.40
0.45
Time (sec)


Hollow Sphere of Steel
Locking device


Intersection
Transverse
Parallel

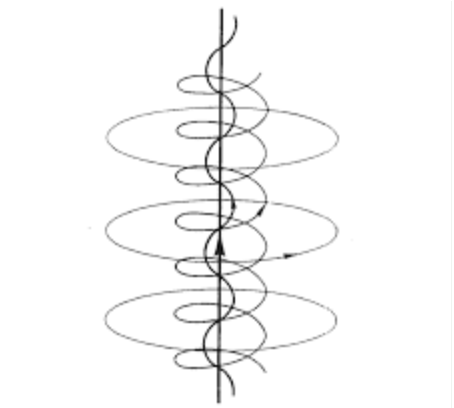
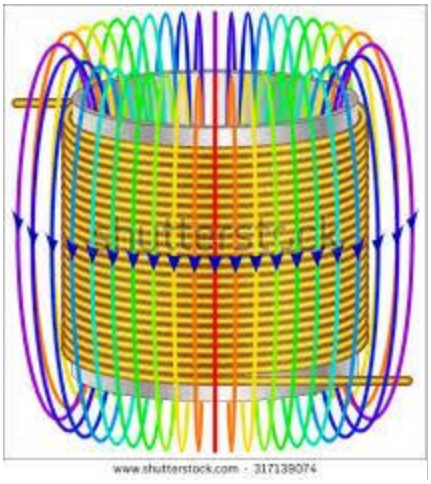


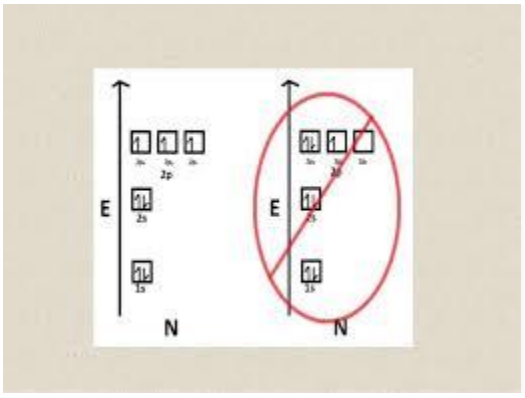
Fig. 10.2 Simple model of a filamentary current structure in a low density plasma. Currents flow parallel to the magnetic field. The lines in the figure represent both current paths and magnetic field lines.



- The RFO coil is installed perpendicular (90 °C) to the applied magnetic field and transmits radio waves of fixed frequency such as 60,100,200 or 300 MHz to a small coil that energies the sample in the probe.
- This is done so that the applied RF field should not change the effective magnetic field in the process of irradiation.





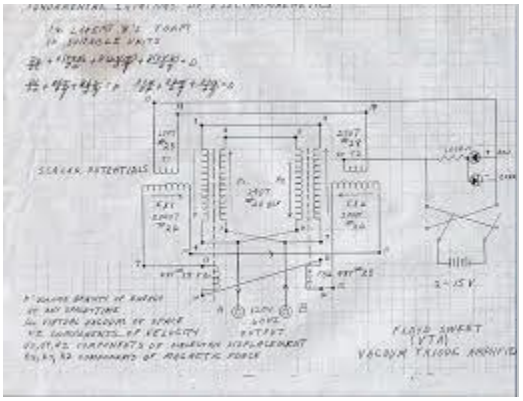


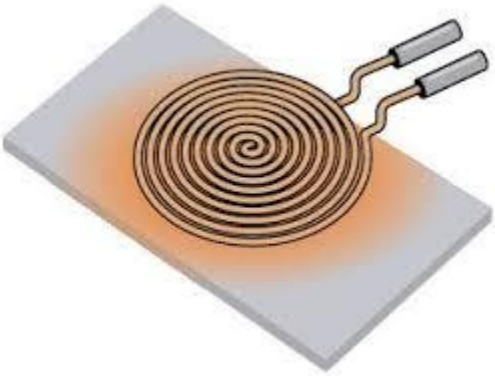


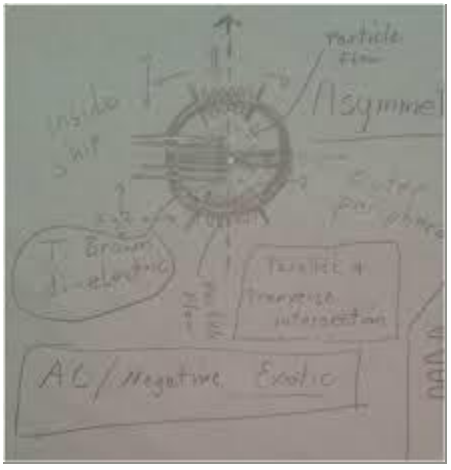








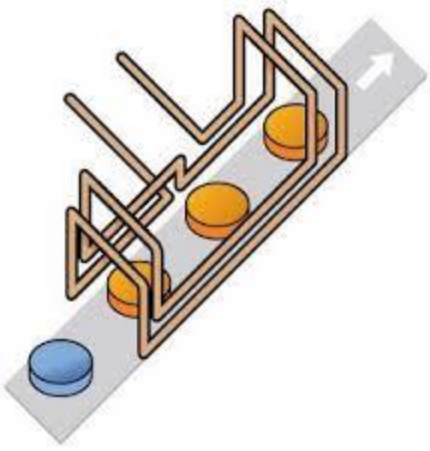




Engineer John Searl discovered that inertial mass could be canceled in such an approach to field propulsion, thus eliminating the presumed “light speed barrier”



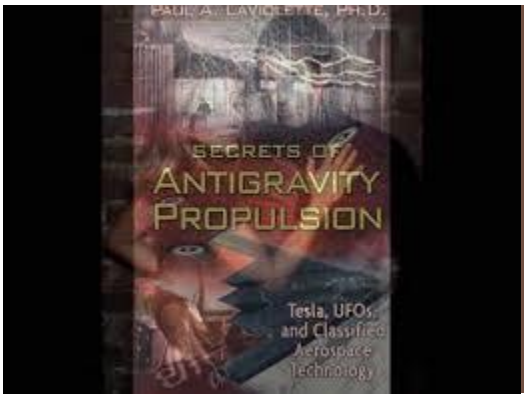






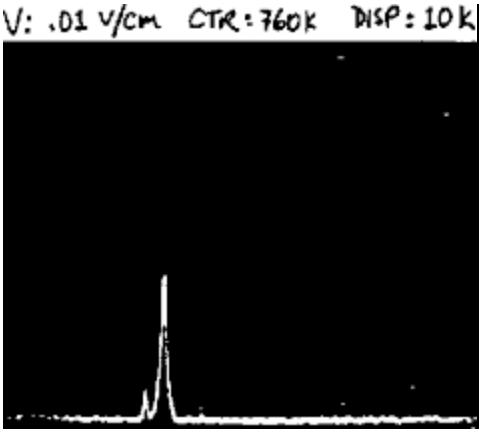
FACTORS INFLUENCING CHEMICAL SHIFT

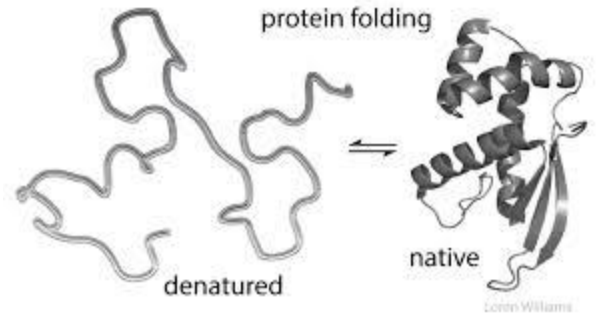
- Electronegativity Effects.
- Van der Waal's Deshielding.
- Hydrogen Bonding.
- Magnetic Anisotropy.
- Concentration, Tempareture and Solvent Effect.













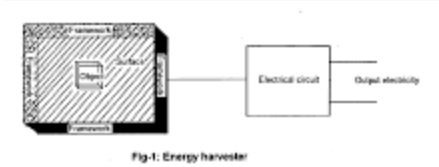


Fig-1: Energy harvester

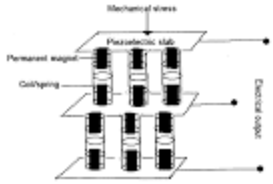
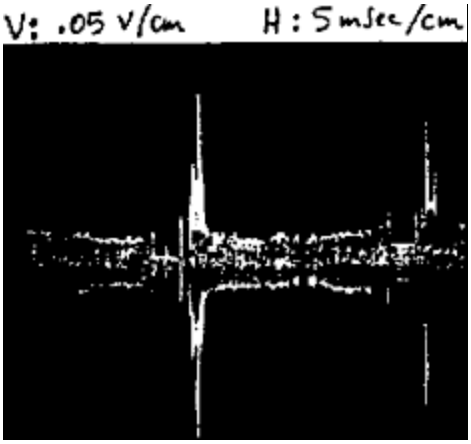
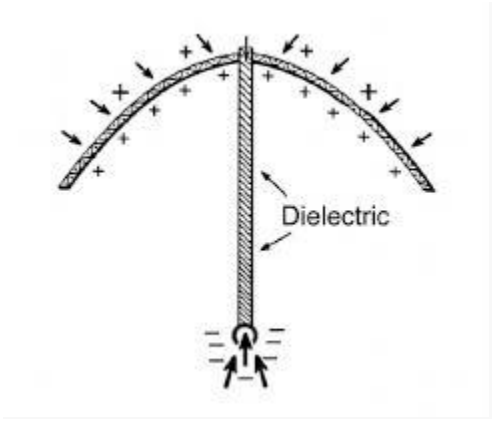
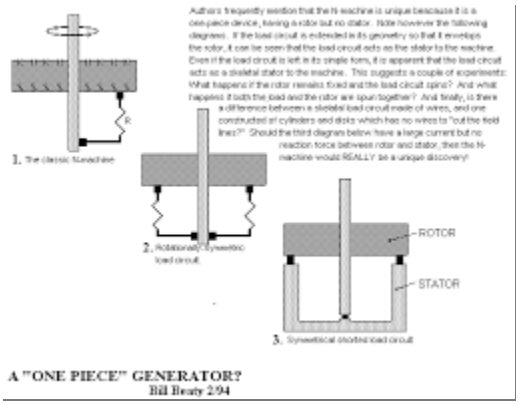


Fig-2: Electromagnetic and piezoelectric framework

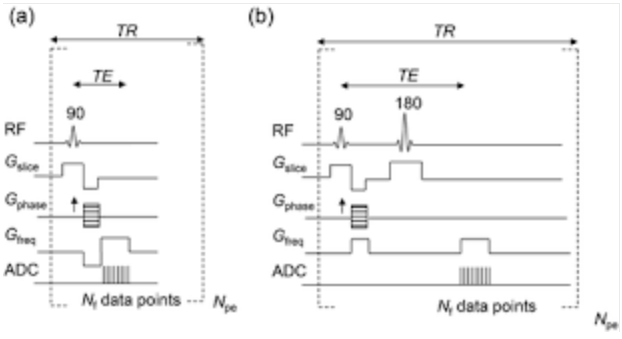


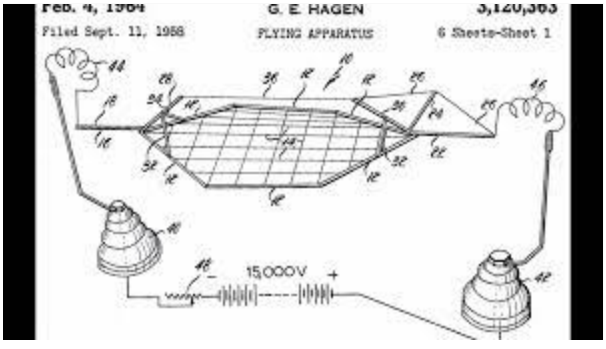


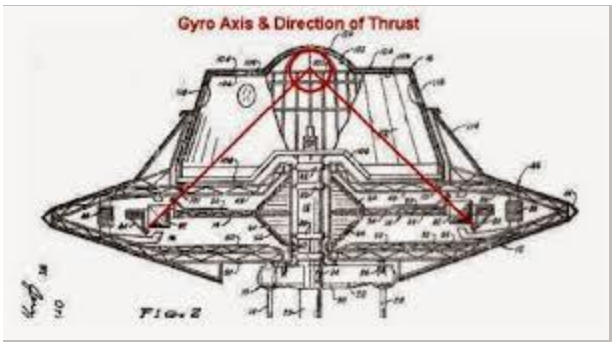








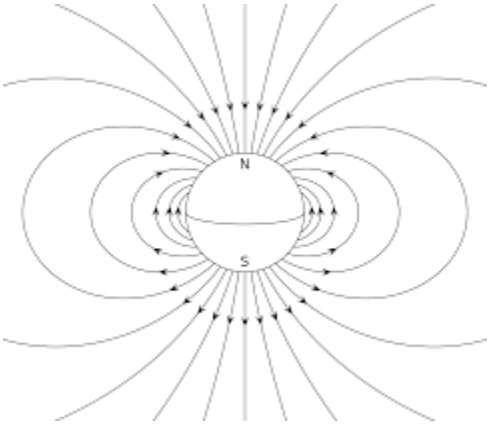


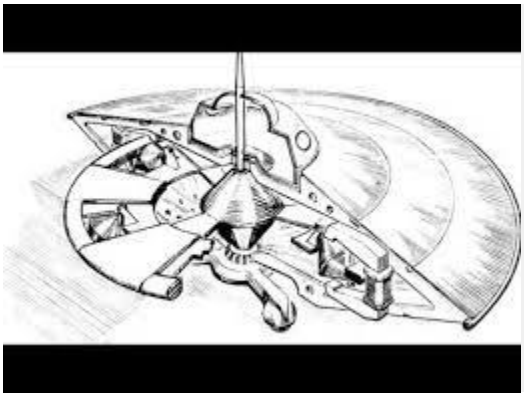


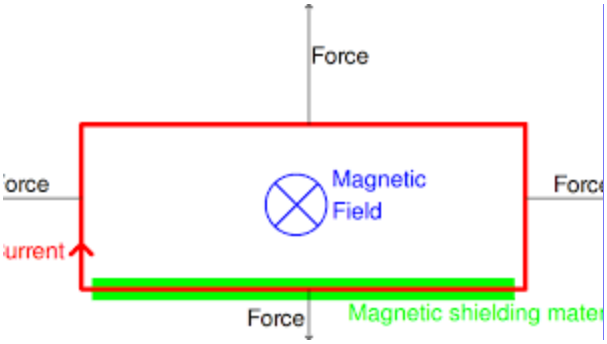


Grid	# Cycles 0" to 5"													
	10	100	1,000	2,000	3,000	4,000	5,000	35K	70K	100K	500K	1M	1.5M	2M
	Free Height (in)													
Specimen #														
1	9.65	9.65	9.57	9.57	9.57	9.57	9.53	9.53	9.53	9.53	9.53	9.49	9.49	9.49
2	9.65	9.65	9.57	9.57	9.57	9.57	9.53	9.49	9.49	9.49	9.49	9.45	9.45	9.45
3	9.72	9.72	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.53	9.45	9.45	9.45
4	9.53	9.53	9.61	9.57	9.57	9.57	9.53	9.53	9.53	9.53	9.53	9.53	9.45	9.45
5	9.53	9.53	9.57	9.49	9.49	9.49	9.45	9.45	9.45	9.45	9.45	9.45	9.41	9.41
6	9.61	9.61	9.53	9.49	9.49	9.49	9.49	9.45	9.45	9.45	9.45	9.45	9.45	9.45
Avg	9.64	9.64	9.58	9.53	9.53	9.53	9.51	9.50	9.50	9.50	9.50	9.48	9.45	9.45
Grid	# Cycles 5" to 0"													
	10	100	1,000	2,000	3,000	4,000	5,000	35K	70K	100K	500K	1M	1.5M	2M
	Free Height (in)													
Specimen #														
1	10.09	10.08	10.09	10.08	10.08	10.09	10.08	10.08	10.08	10.09	10.08	10.04	10.04	10.04
2	9.92	9.92	9.88	9.80	9.88	9.88	9.84	9.84	9.84	9.84	9.84	9.80	9.80	9.80
3	10.29	10.29	10.29	10.29	10.24	10.24	10.16	10.16	10.16	10.16	10.16	10.12	10.12	10.12
4	9.88	9.88	9.84	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.76	9.76	9.76
5	10.00	10.00	9.96	9.96	9.92	9.92	9.88	9.88	9.88	9.88	9.88	9.76	9.76	9.76
6	10.04	10.04	10.00	9.96	9.92	9.92	9.88	9.88	9.88	9.88	9.88	9.84	9.84	9.84
Avg	10.04	10.04	10.01	9.99	9.97	9.97	9.94	9.94	9.94	9.94	9.94	9.89	9.89	9.89

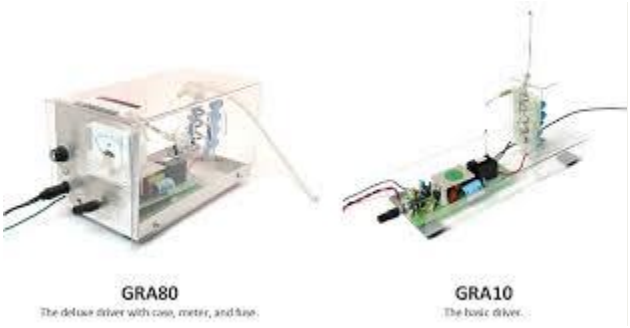
Table 1











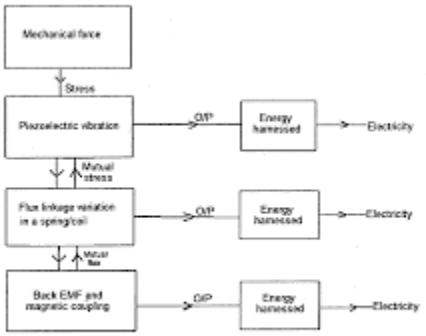
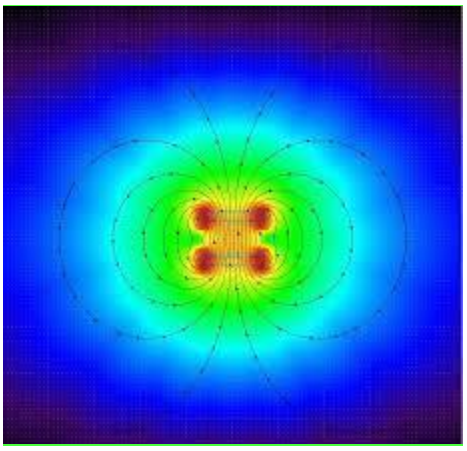
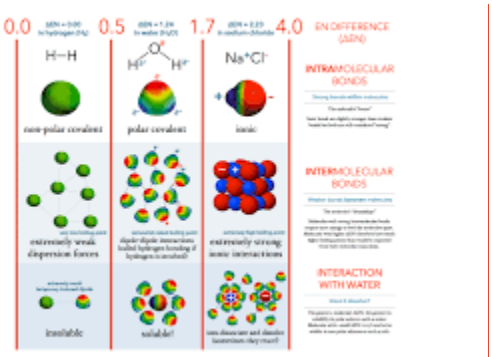


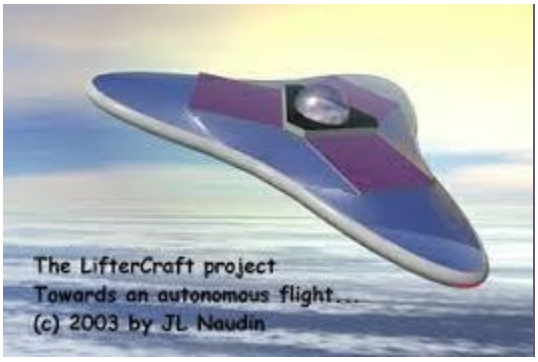
Fig-6: Energy harnessing flow in energy harvester

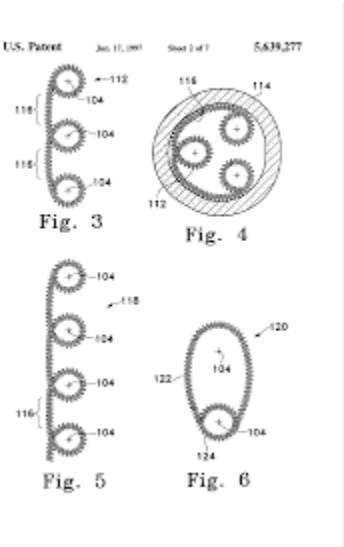




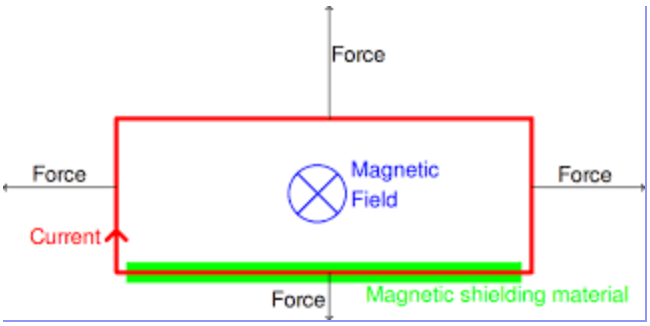



0.0
0.5
1.7
4.0
EN DIFFERENCE (ΔEN)
H–H
Na⁺Cl⁻
non-polar covalent
polar covalent
ionic
INTRAMOLECULAR BONDS
INTERMOLECULAR BONDS
extremely weak dispersion forces
extremely strong ionic interactions
INTERACTION WITH WATER
insoluble
soluble!


The LifterCraft project
Towards an autonomous flight...
(c) 2003 by JL Naudin


U.S. Patent
5,639,277
Fig. 3
Fig. 4
Fig. 5
Fig. 6

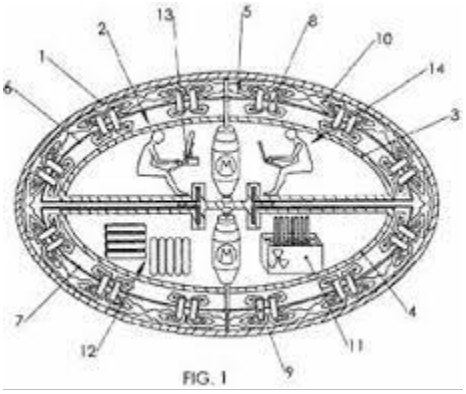


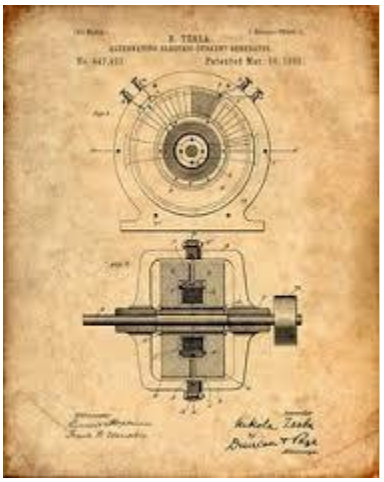

Force
Force
Force
Magnetic Field
Current
Force
Magnetic shielding material

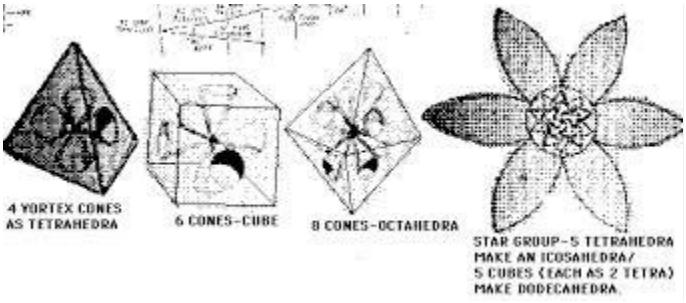


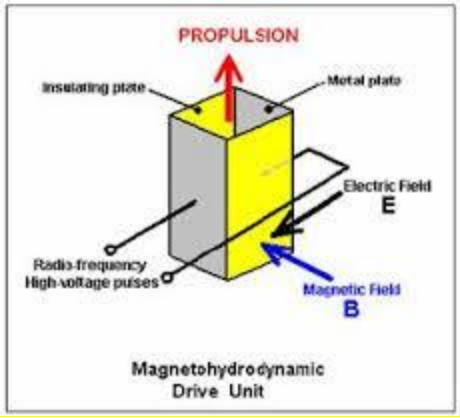


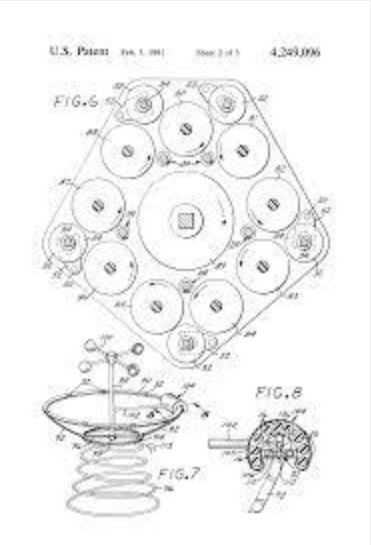



1
2
13
5
8
10
14
3
6
7
12
11
9
M
M
FIG. 1




4 VORTEX CONES
AS TETRAHEDRA
6 CONES-CUBE
8 CONES-OCTAHEDRA
STAR GROUP-5 TETRAHEDRA
MAKE AN ICOSAHEDRA/
5 CUBES (EACH AS 2 TETRA)
MAKE DODECAHEDRA.

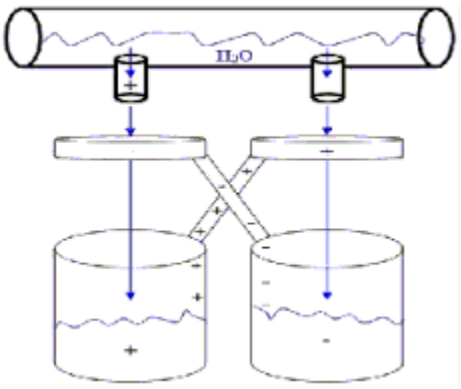

PROPULSION
Insulating plate
Metal plate
Electric Field
E
Radio-frequency
High-voltage pulses
Magnetic Field
B
Magnetohydrodynamic
Drive Unit


U.S. Patent
4,249,096
FIG.6
FIG.8
FIG.7





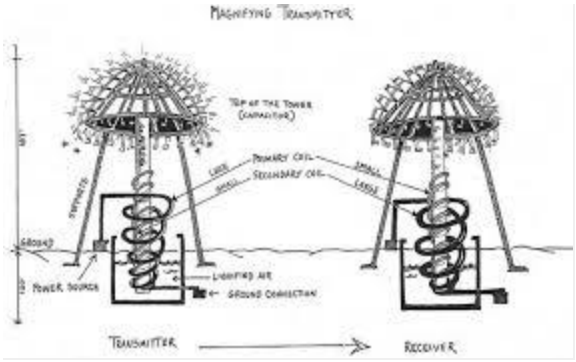

High-Voltage DC Generator PCBs
7kv
15kv
25kv

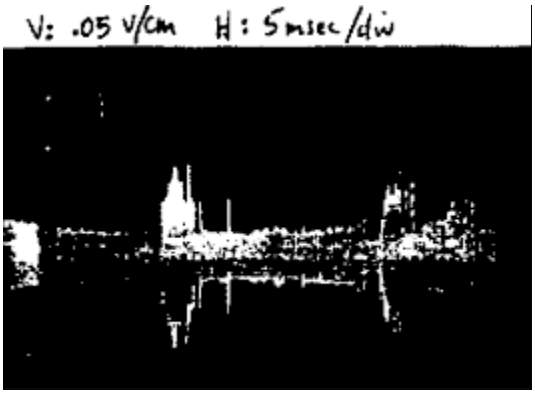

H2O

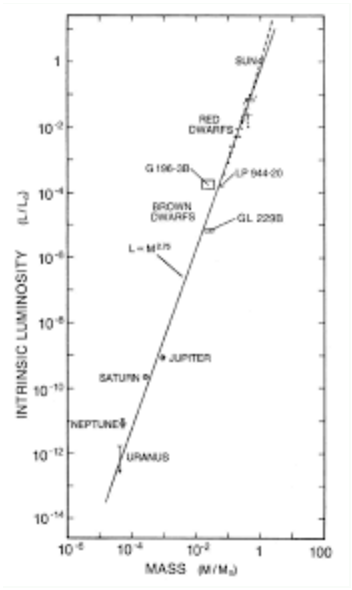


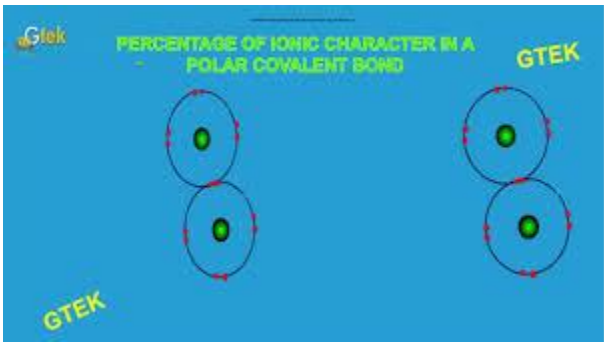

New Energy Technologies
SOLIDnSTATE ELECTRICAL OVER UNITY DEVICES


Dr. Paul LaViolette





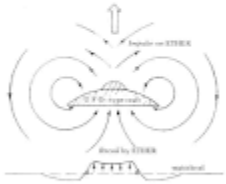




Forward astronaut Capt. Edgar D. Mitchell, Ph. D.

ETHER-TECHNOLOGY

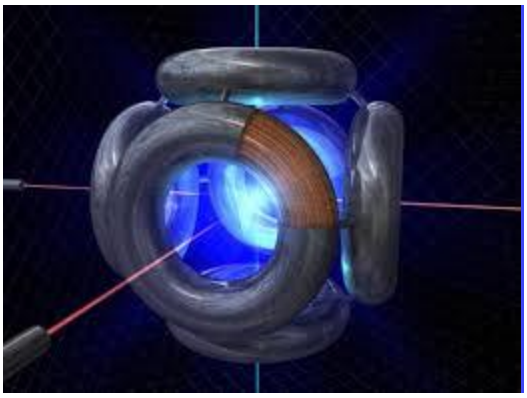
A Rational Approach to Gravity Control

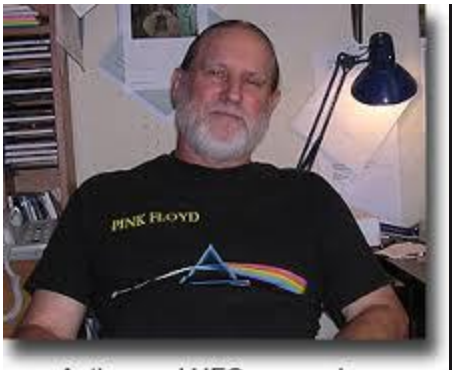


by Rho Sigma

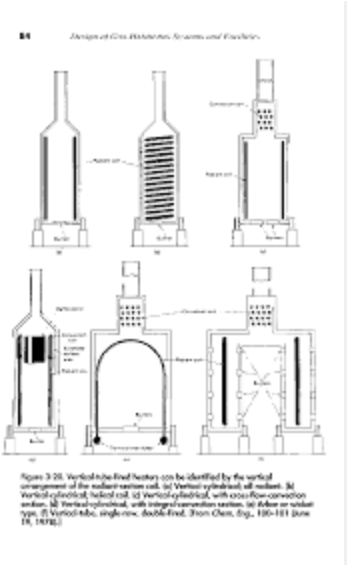
THE UNDERGROUND CLASSIC IS BACK IN PRINT!



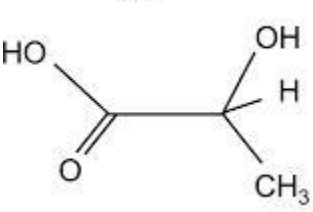


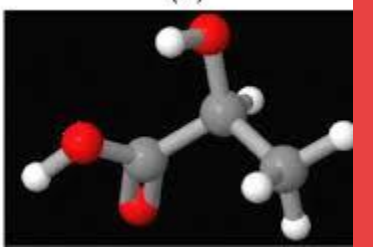


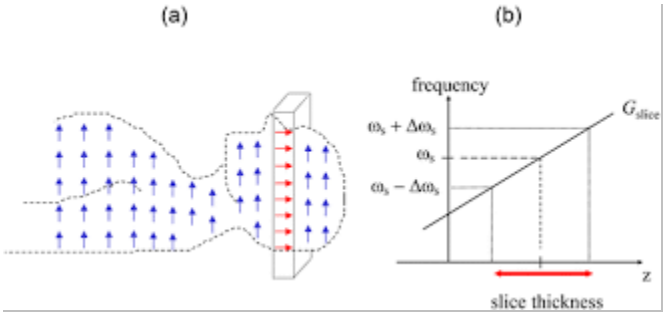
Author and UFO researcher
William Moore in his
Los Angeles office, October 2003



(a) (b)

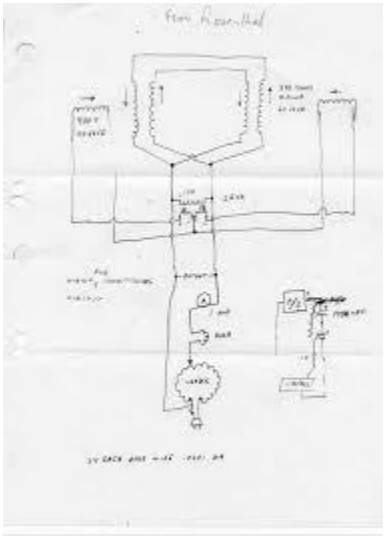




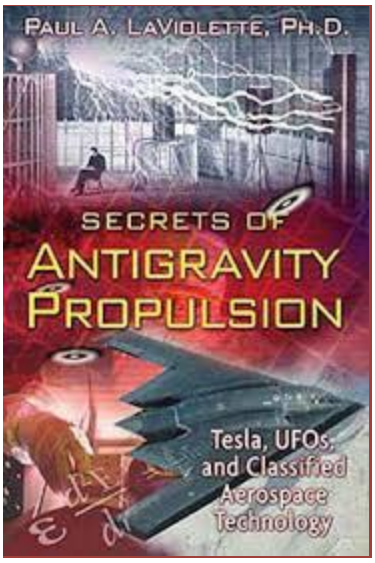


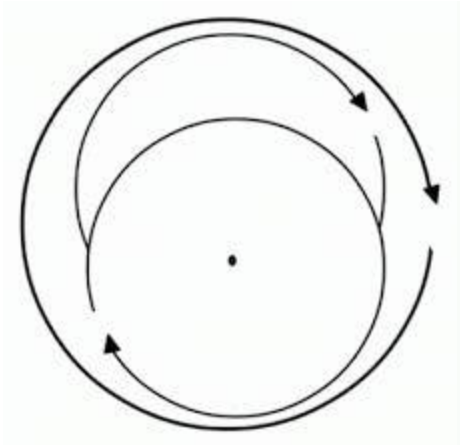


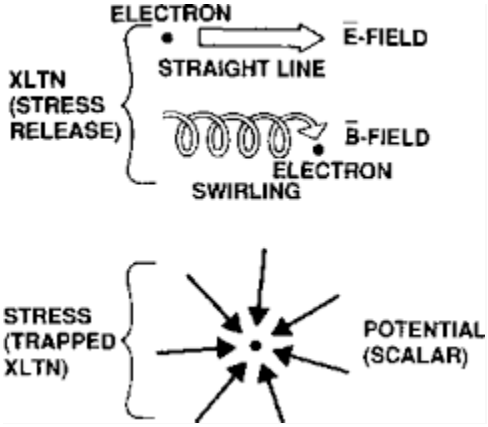


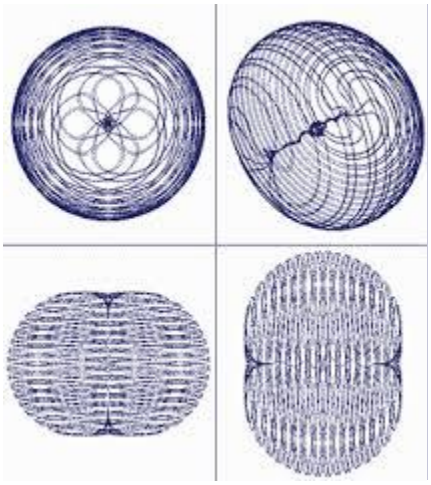





PAUL A. LAVIOLETTE, PH.D.
SECRETS OF
ANTIGRAVITY
PROPULSION
Tesla, UFOs,
and Classified
Aerospace
Technology

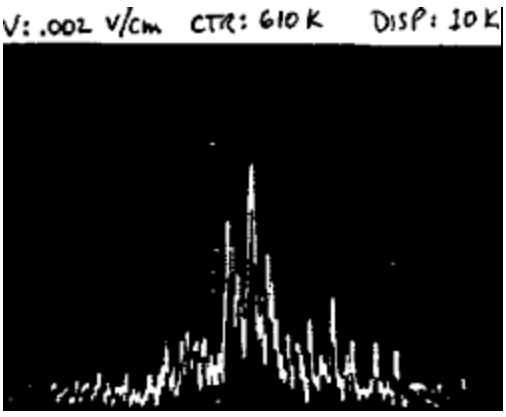


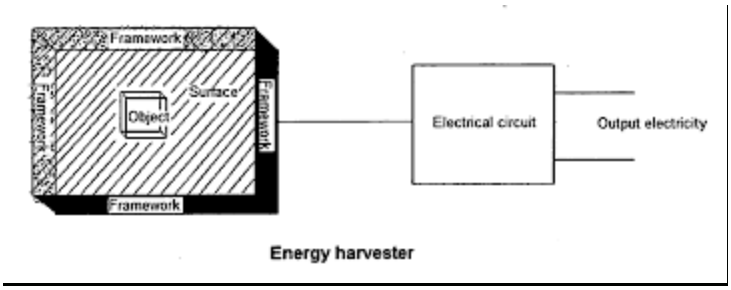

ELECTRON
E-FIELD
STRAIGHT LINE
XLTN
(STRESS
RELEASE)
B-FIELD
ELECTRON
SWIRLING
STRESS
(TRAPPED
XLTN)
POTENTIAL
(SCALAR)

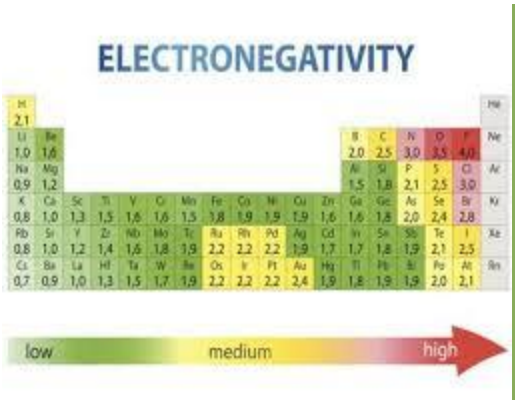




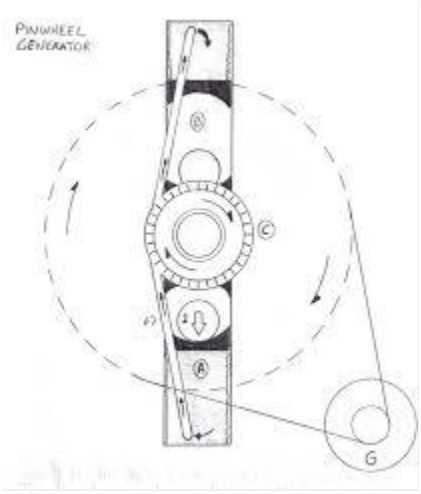


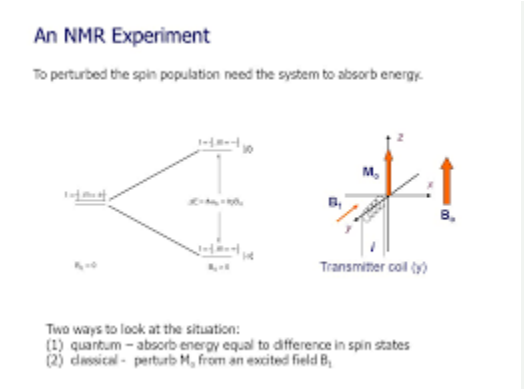

V: .002 V/cm CTR: 610 K DISP: 10 K

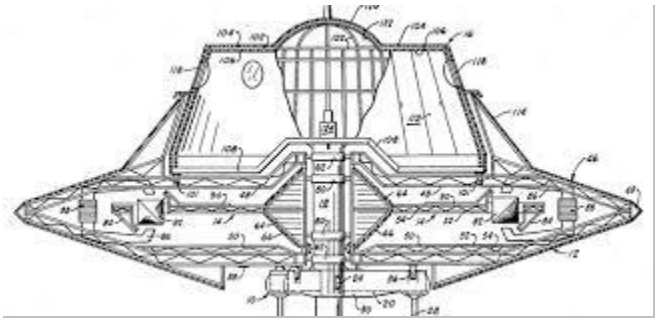

Framework
Framework
Framework
Framework
Surface
Object
Electrical circuit
Output electricity
Energy harvester

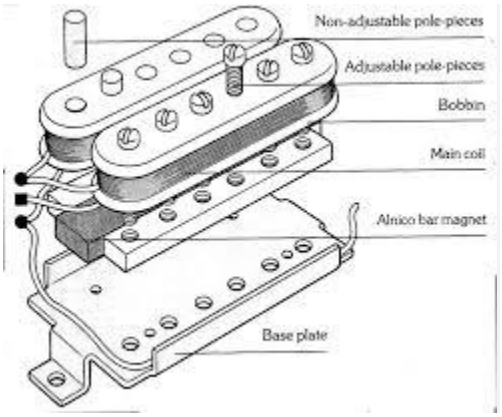












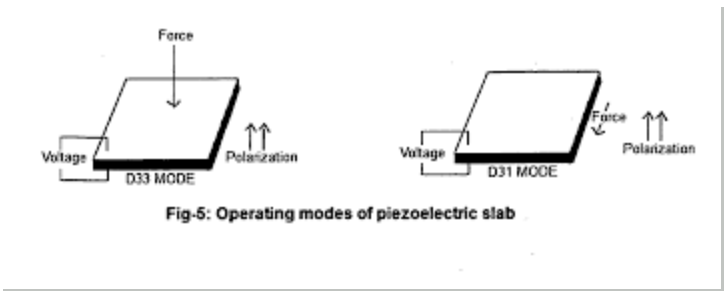
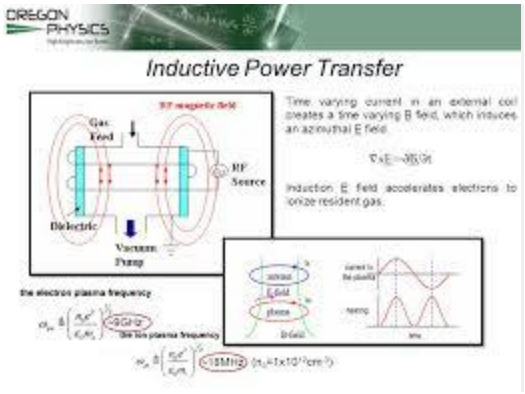
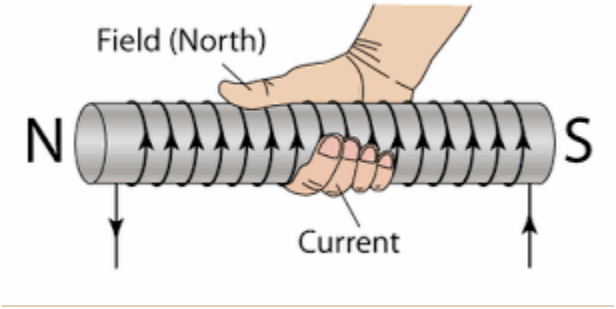
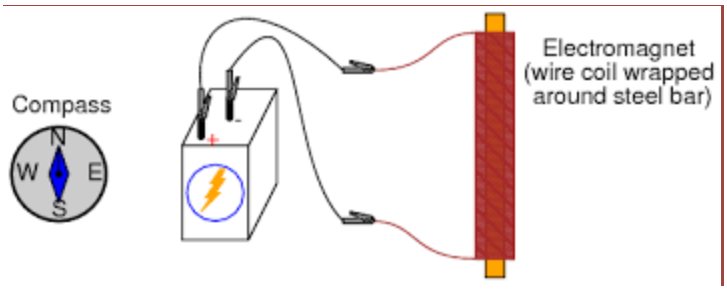


Fig-5: Operating modes of piezoelectric slab

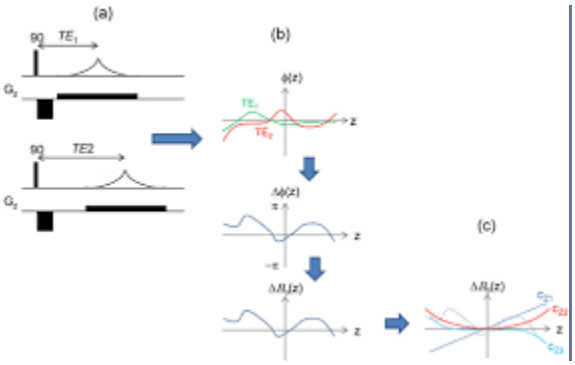


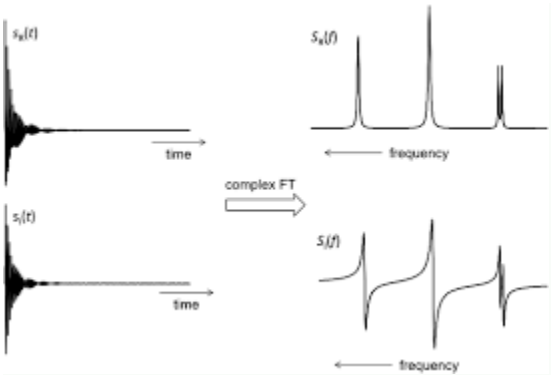


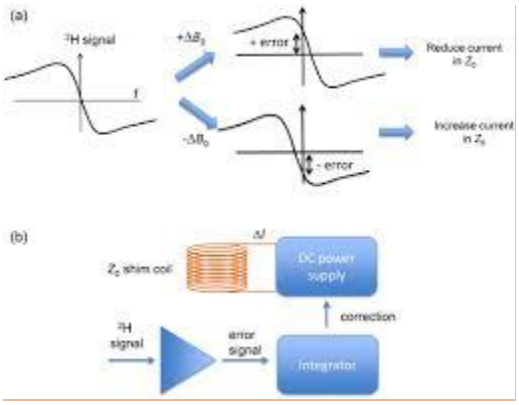



Compass
N
W
E
S
Electromagnet
(wire coil wrapped
around steel bar)


angelfire.com/a/ocgal

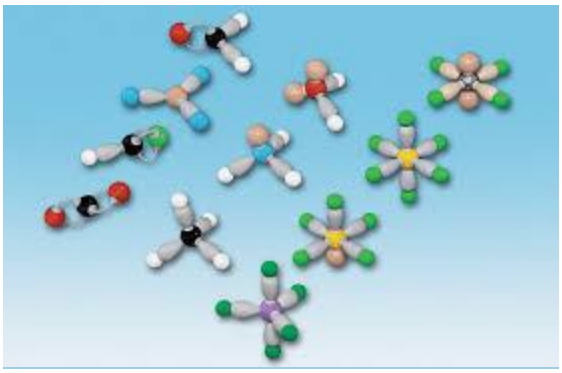

(a)
(b)
(c)
TE1
TE2
G
φ(z)
Δφ(z)
ΔB(z)
z

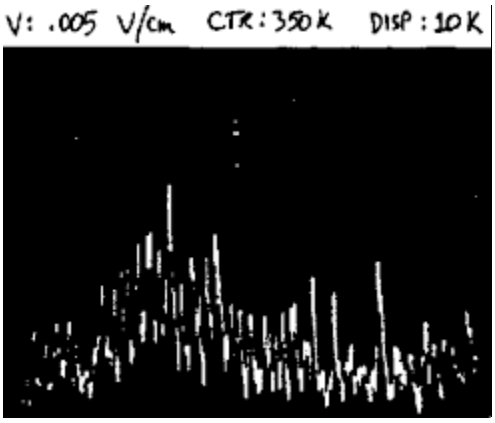

time
frequency
complex FT
time
frequency


(a)
²H signal
+ error
Reduce current in Z0
- error
Increase current in Z0
(b)
Z0 shim coil
DC power supply
correction
²H signal
error signal
Integrator

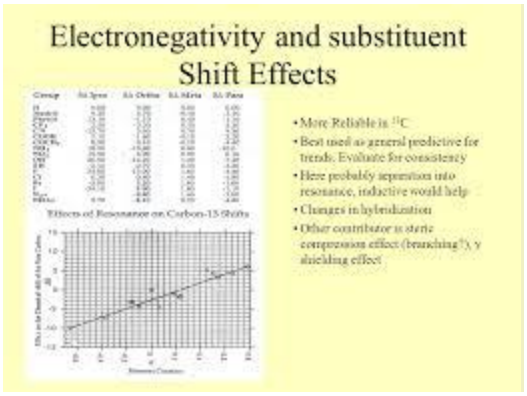

Dr. Paul LaViolette



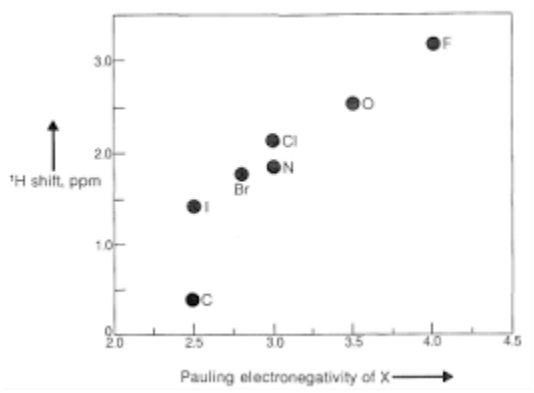


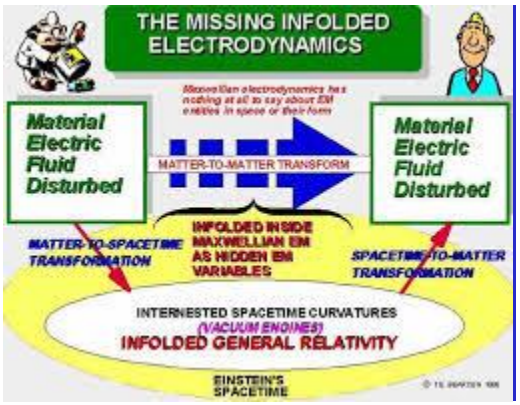

V: .005 V/cm CTR: 350 K DISP: 10 K

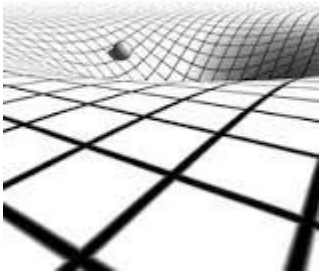


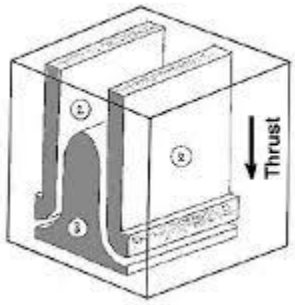

Electronegativity and substituent Shift Effects
• More Reliable in ^{13}C
• Best used as general predictive for trends. Evaluate for consistency
• Here probably separation into resonance, inductive would help
• Changes in hybridization
• Other contributor is steric compression effect (branching$^{\gamma}$), γ shielding effect

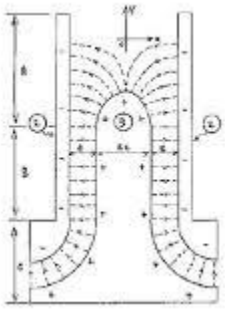

SALTER

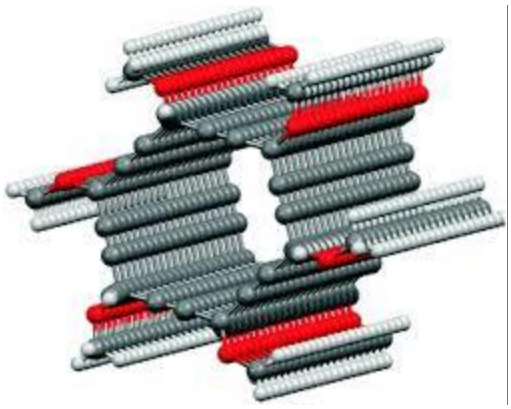

F
O
Cl
N
Br
I
C
3.0
2.0
1.0
0
2.0
2.5
3.0
3.5
4.0
4.5
^{1}H shift, ppm
Pauling electronegativity of X


THE MISSING INFOLDED ELECTRODYNAMICS
Material Electric Fluid Disturbed
MATTER-TO-MATTER TRANSFORM
Materiel Electric Fluid Disturbed
MATTER-TO-SPACETIME TRANSFORMATION
INFOLDED INSIDE MAXWELLIAN EM AS HIDDEN EM VARIABLES
SPACETIME-TO-MATTER TRANSFORMATION
INTERNESTED SPACETIME CURVATURES
(VACUUM ENGINES)
INFOLDED GENERAL RELATIVITY
EINSTEIN'S SPACETIME

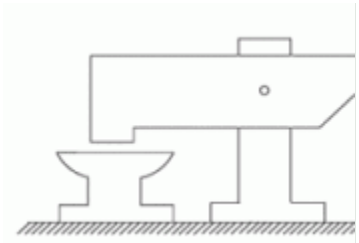



Thrust



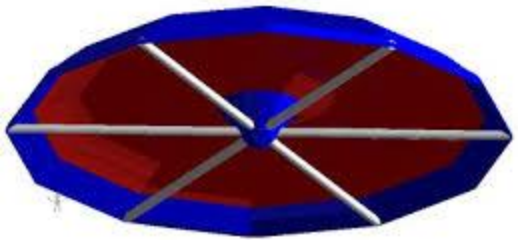


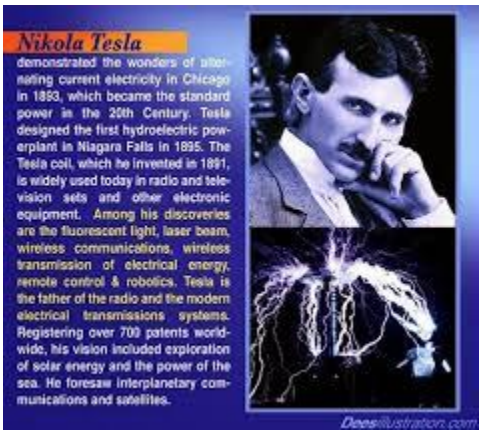


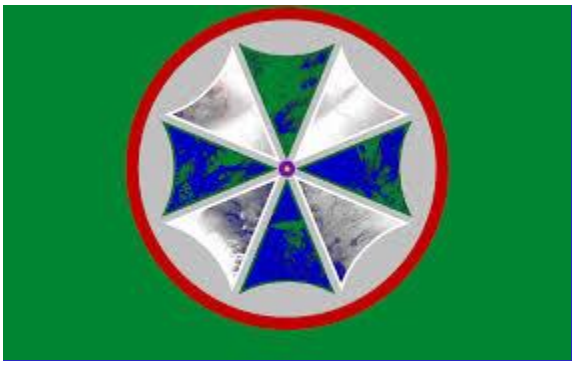


Chemical Shifts; Predicting and Additivity Rules

- Sometimes prediction works
- Better for carbon than for proton
- Multiple substitution can lead to push-pull deviations due to resonance, etc.
- Protons have larger relative effects on them from anisotropic neighboring fields mostly because the range of the shift domain is so small.
- Best efforts are in interpolation schemes based on mapping of assigned shifts in chemical-bond space
- **The good news is that relevant model compounds are really effective in predictive value**



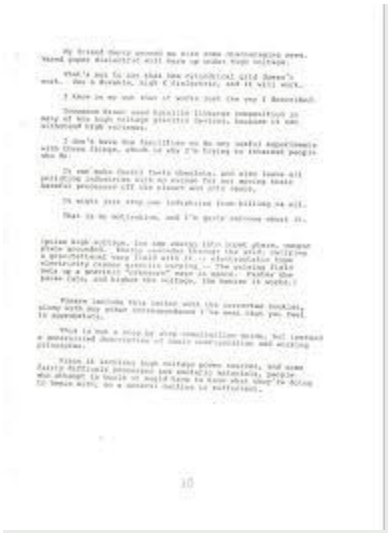




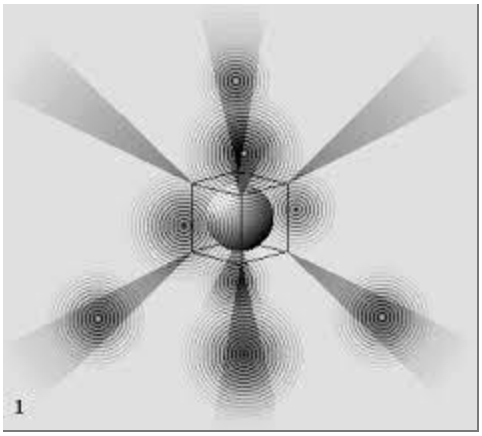






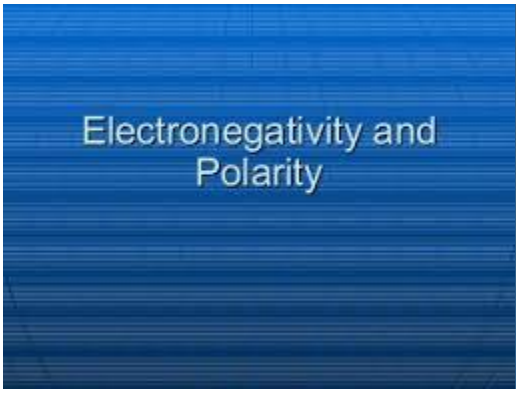






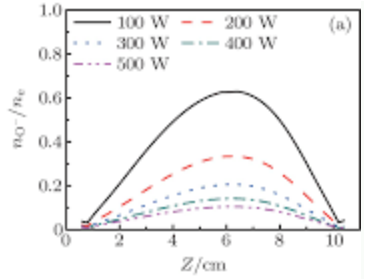


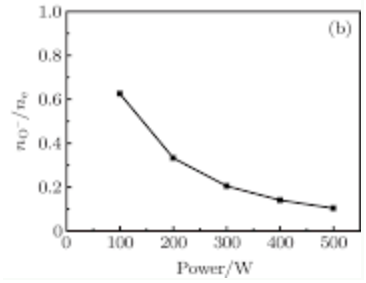

dino-power

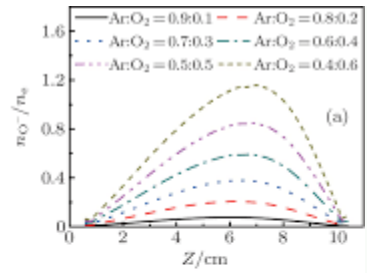

Electronegativity and
Polarity

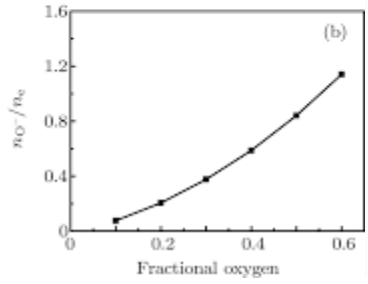





100 W
200 W
300 W
400 W
500 W
(a)
n_{O^-}/n_e
Z/cm


(b)
n_{O^-}/n_e
Power/W

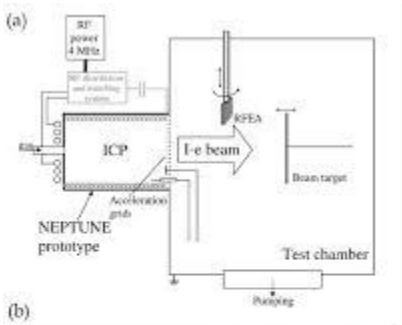

Ar:O2 = 0.9:0.1
Ar:O2 = 0.8:0.2
Ar:O2 = 0.7:0.3
Ar:O2 = 0.6:0.4
Ar:O2 = 0.5:0.5
Ar:O2 = 0.4:0.6
(a)
n_{O^-}/n_e
Z/cm

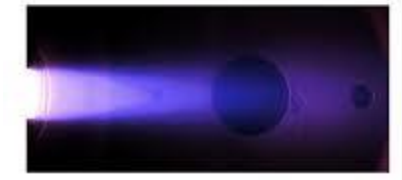

(b)
n_{O^-}/n_e
Fractional oxygen

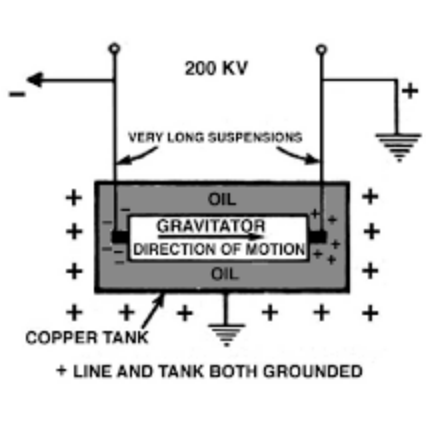







(a)
RF power 4 MHz
RPEA
ICP
I-e beam
Beam target
Acceleration grids
NEPTUNE prototype
Test chamber
Pumping
(b)

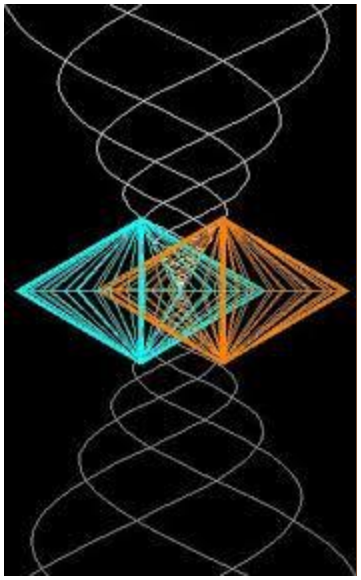



200 KV
VERY LONG SUSPENSIONS
OIL
GRAVITATOR
DIRECTION OF MOTION
OIL
COPPER TANK
+ LINE AND TANK BOTH GROUNDED

Yugoslav Earthquake, Followed by Cold Explosion

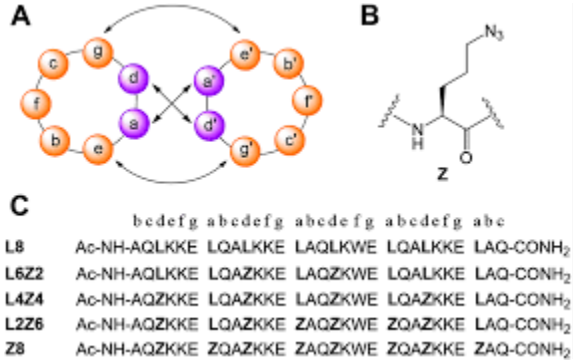
Apr. 15 1979

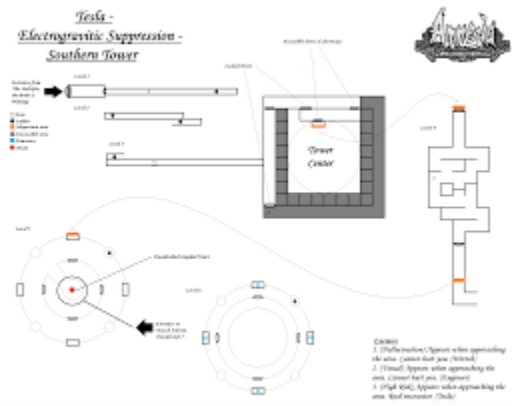
- Magnitude 7.2 on Richter scale
- Epicenter 33 km. deep
- More than 100 aftershocks
- At Kamenari:
 - Adriatic sea mushroomed up
 - Like atomic bomb explosion
 - Signature of a cold explosion
 - Similar to Apr. 1984 test off coast of Japan, near Kurils (see inset graphics)
- Note that April is a significant test month for the Communists (preparing official reports for May Day?)

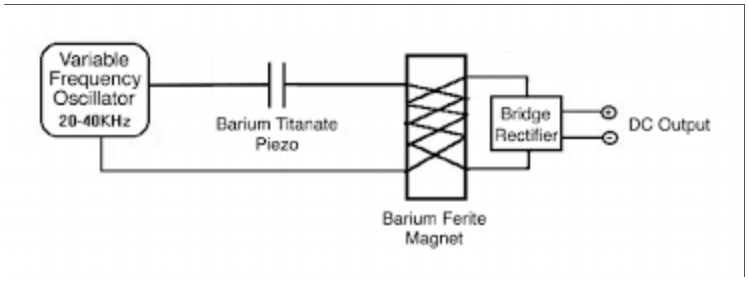




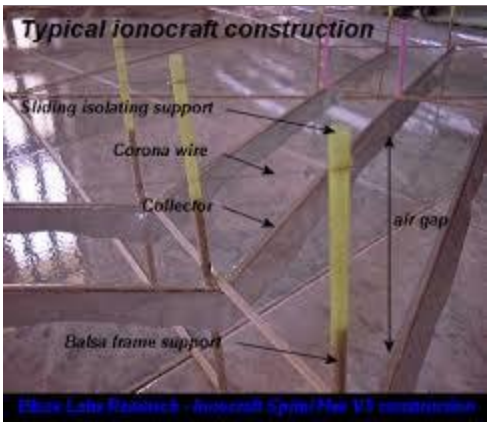


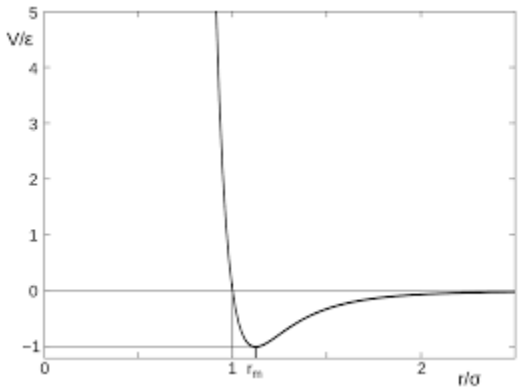






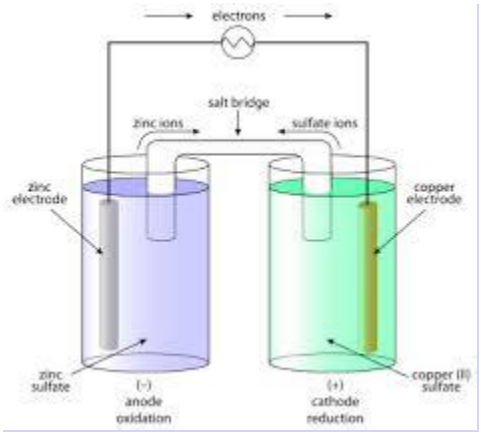


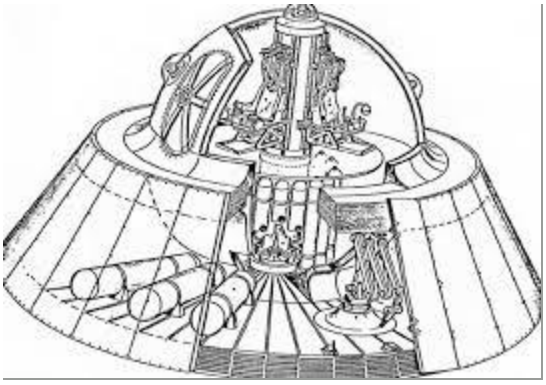






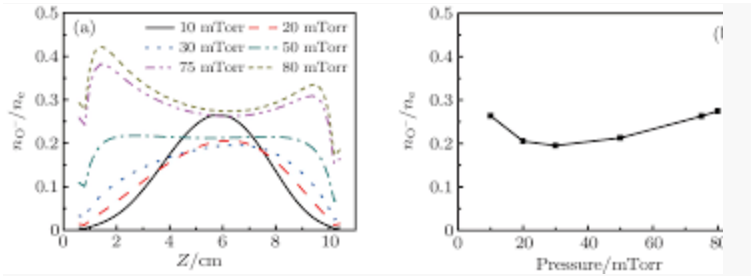




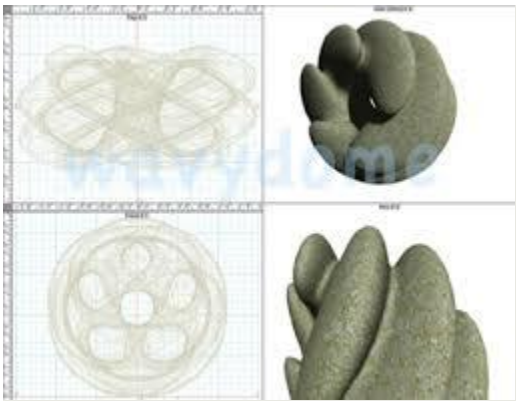


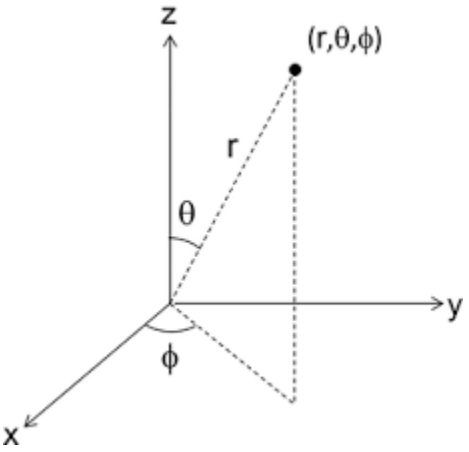


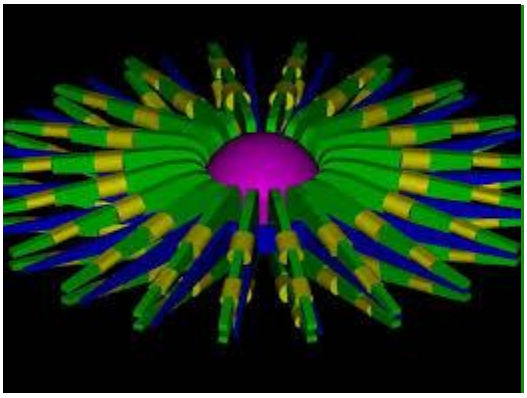
H 2.20	Electronegativity Values for Some Elements					
Li 0.98	Be 1.57	B 2.04	C 2.55	N 3.04	O 3.44	F 3.98
Na 0.90	Mg 1.31	Al 1.61	Si 1.90	P 2.19	S 2.58	Cl 3.16
K 0.82	Ca 1.00	Ga 1.81	Ge 2.01	As 2.18	Se 2.55	Br 2.96









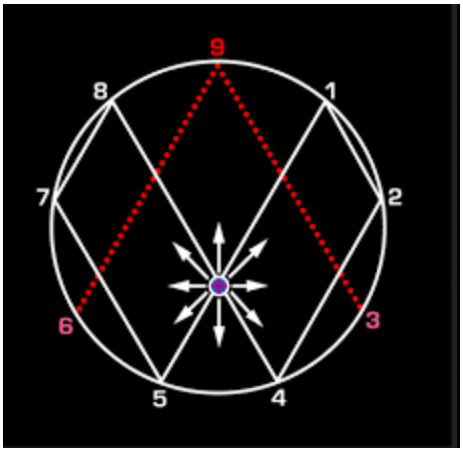


Infolded Engines: Excluded by Present Physics

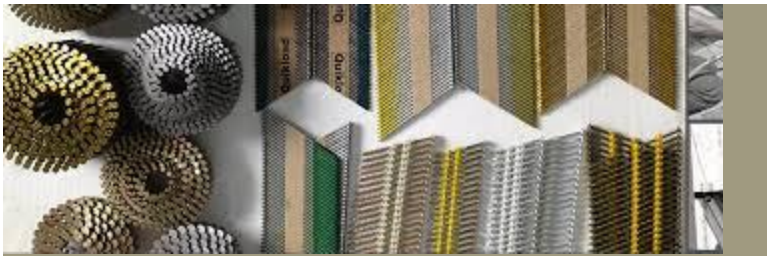
- *The infolded dynamics of EM systems are not considered in general relativity, electromagnetics, or quantum mechanics*
- *None of these disciplines include such spacetime curvature engines (vacuum engines)*
- *Thus GR, EM, and QM cannot be unified, since ST curvature engines are where the unification mainly occurs*

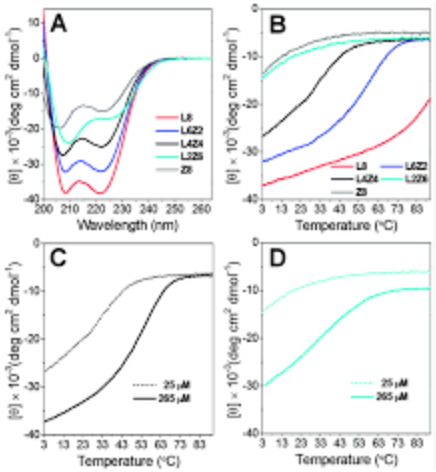
© 1999 T. E. BEARDEN







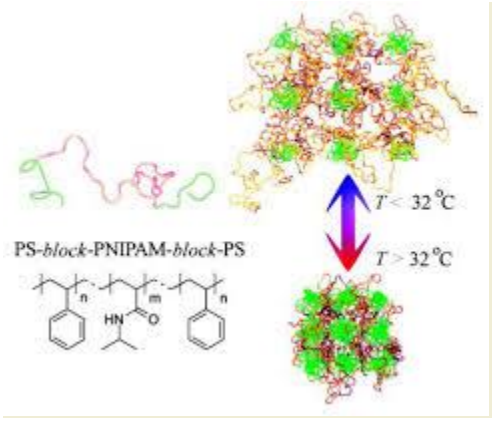






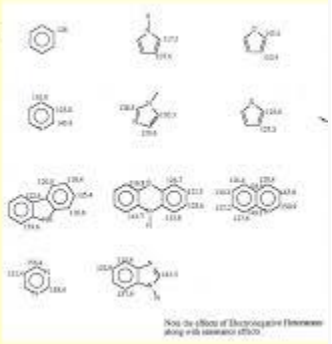
Defining Shift Scales





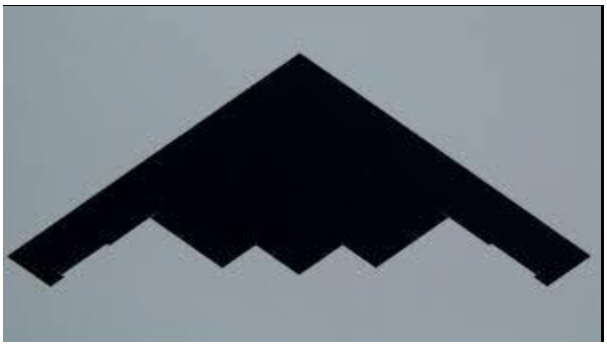
Electronegativity Effects on ^{13}C Shifts

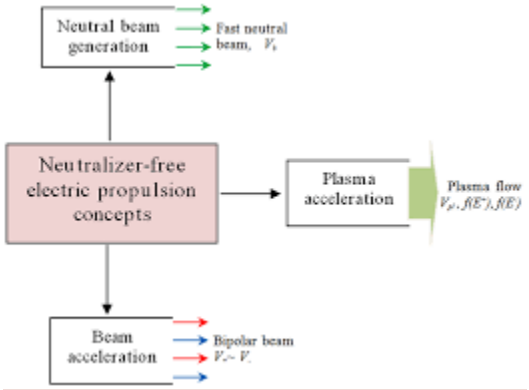
No Surprises Here





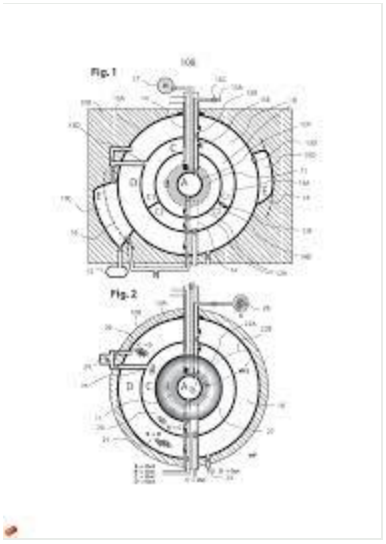


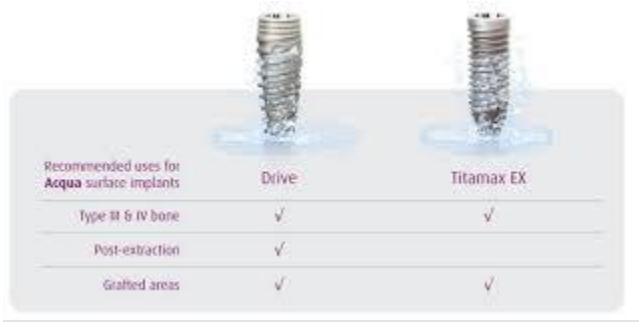


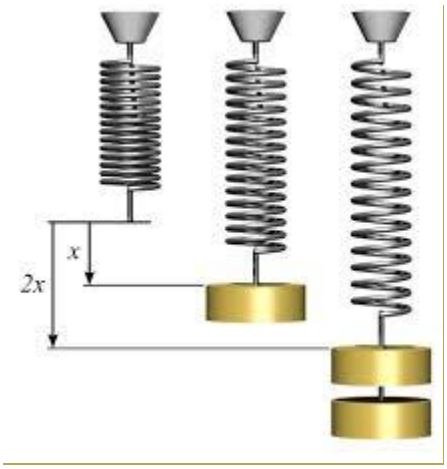

Neutral beam generation
Fast neutral beam, V_+
Neutralizer-free electric propulsion concepts
Plasma acceleration
Plasma flow V_p, $f(E^+)$, $f(E)$
Beam acceleration
Bipolar beam V_+- V_-

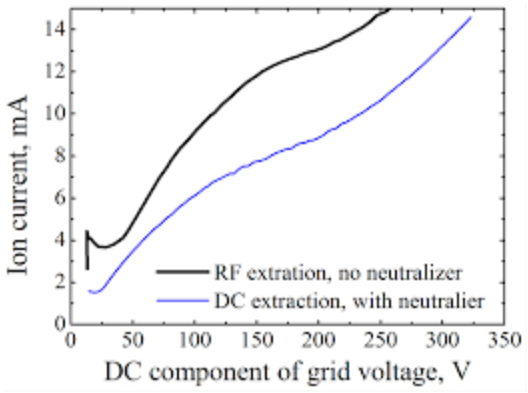


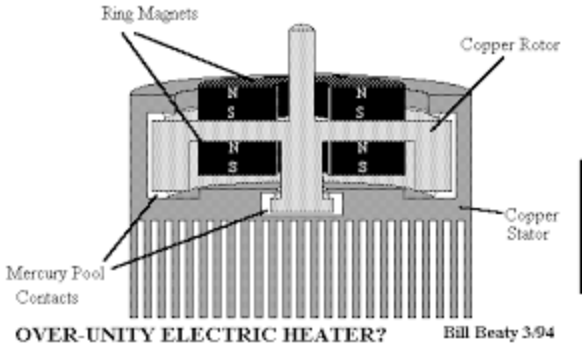



Fig. 1
Fig. 2


Recommended uses for Acqua surface implants
Drive
Titamax EX
Type III & IV bone
√
√
Post-extraction
√
Grafted areas
√
√


x
2x

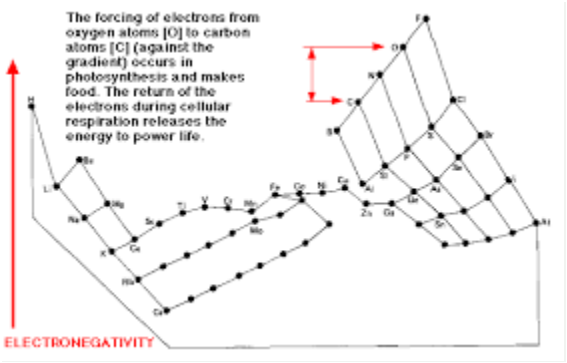

Ion current, mA
DC component of grid voltage, V
RF extration, no neutralizer
DC extraction, with neutralier
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
350

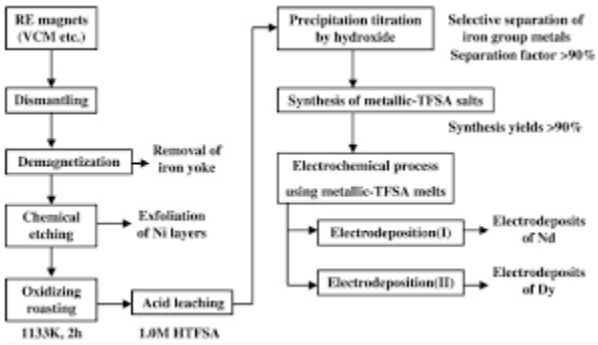


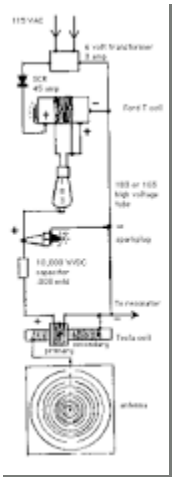


H 2.1																	He
Li 1.0	Be 1.5											B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne
Na 0.9	Mg 1.2											Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe 2.6
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une									

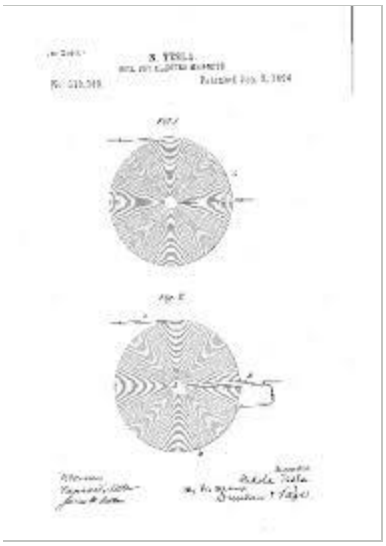
Ce 1.1	Pr 1.1	Nd 1.1	Pm 1.1	Sm 1.1	Eu 1.1	Gd 1.1	Tb 1.1	Dy 1.1	Ho 1.1	Er 1.1	Tm 1.1	Yb 1.1	Lu 1.2
Th 1.3	Pa 1.5	U 1.7	Np 1.3	Pu 1.3	Am 1.3	Cm 1.3	Bk 1.3	Cf 1.3	Es 1.3	Fm 1.3	Md 1.3	No 1.3	Lr

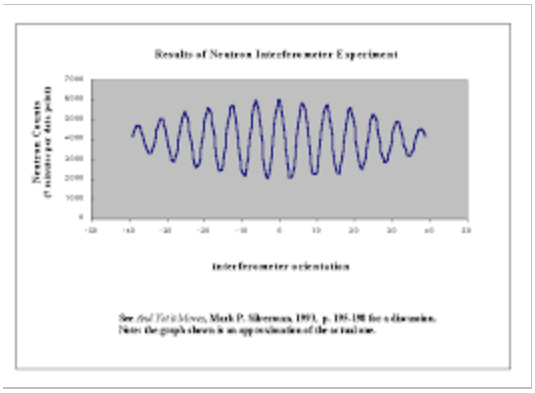


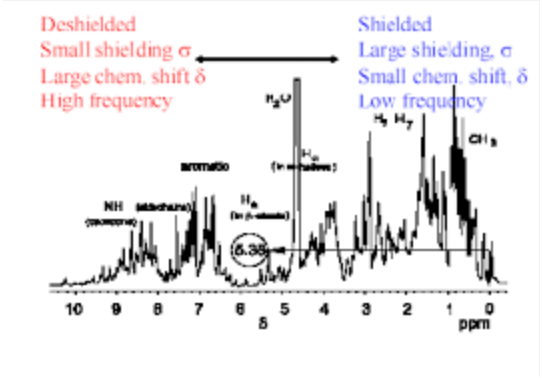









Results of Neutron Interferometer Experiment
Neutron Counts
(1 minute per data point)
Interferometer orientation
See And Yet it Moves, Mark P. Silverman, 1993, p. 195-198 for a discussion.
Note: the graph shown is an approximation of the actual one.

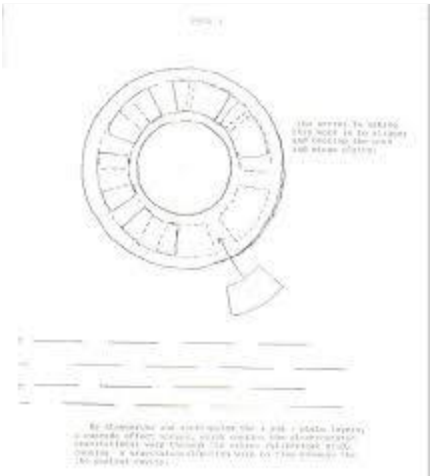

Deshielded
Small shielding σ
Large chem. shift δ
High frequency
Shielded
Large shielding, σ
Small chem. shift, δ
Low frequency
aromatic
NH
6.38
10 9 8 7 6 5 4 3 2 1 0
δ
ppm



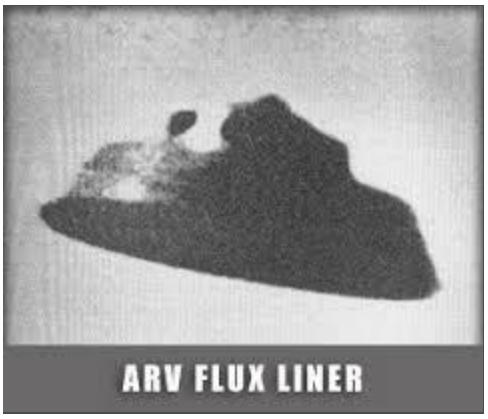


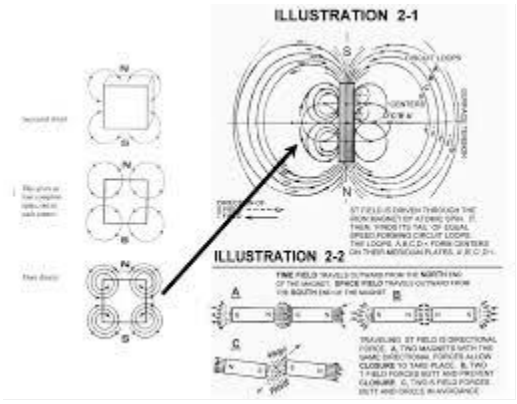


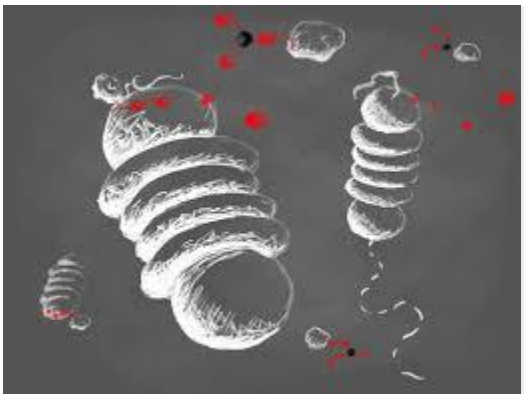






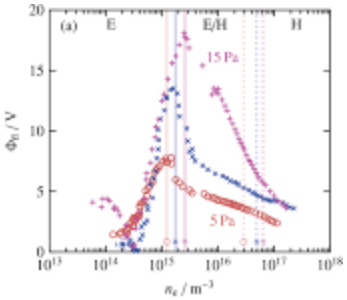


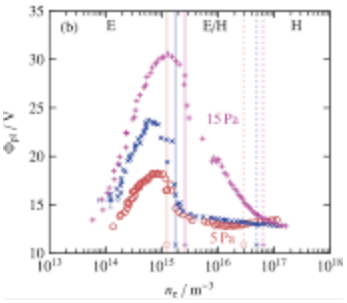


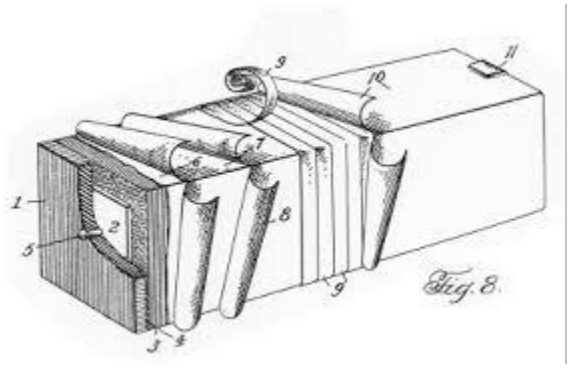


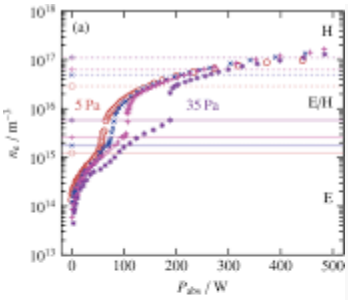
Strange Characteristics of Iran Quake, Sep. 1978

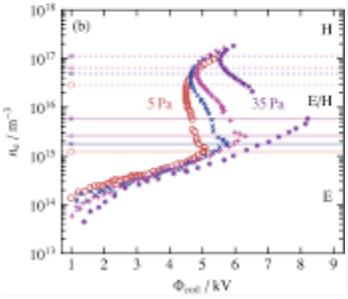
- Signatures
 - 7.4 on Richter scale
 - No aftershocks: 6.0 expected (normal)
 - Strange epicenter
 - Anomalous depth
- Deception
 - 10 MT Soviet nuclear explosion 36 hours before the quake
 - Prior disinformation regarding Soviet attempted development of focusing shock waves from underground nuclear explosions, to cause distant earthquakes

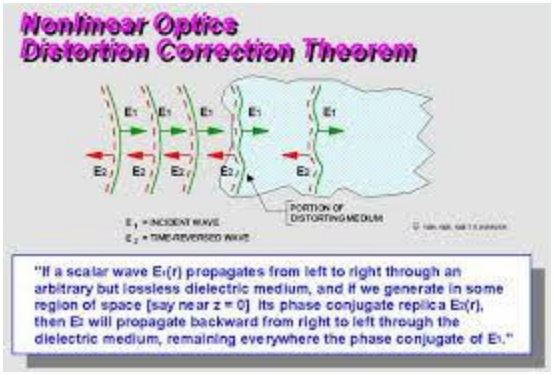


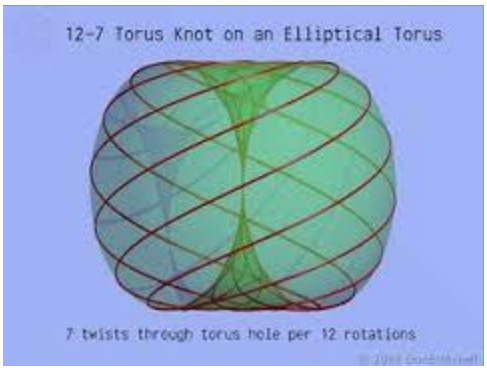


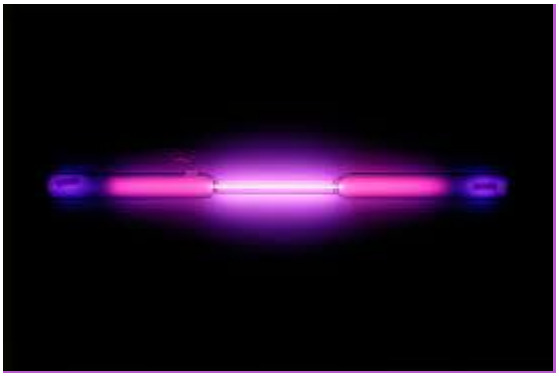




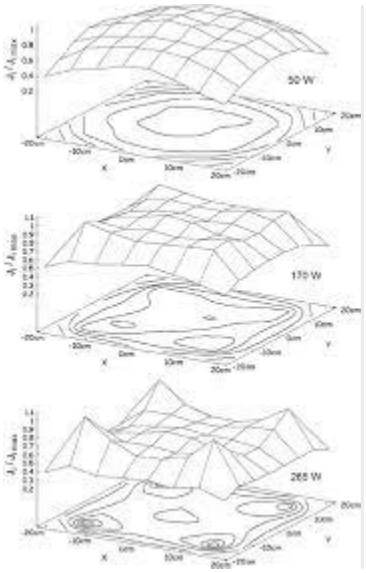



Nonlinear Optics
Distortion Correction Theorem
E1
E2
PORTION OF DISTORTING MEDIUM
E1 = INCIDENT WAVE
E2 = TIME-REVERSED WAVE
"If a scalar wave E1(r) propagates from left to right through an arbitrary but lossless dielectric medium, and if we generate in some region of space [say near z = 0] its phase conjugate replica E2(r), then E2 will propagate backward from right to left through the dielectric medium, remaining everywhere the phase conjugate of E1."

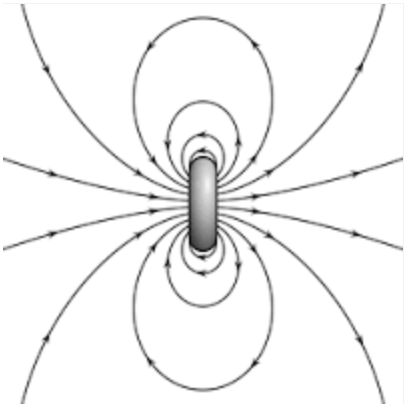

12-7 Torus Knot on an Elliptical Torus
7 twists through torus hole per 12 rotations



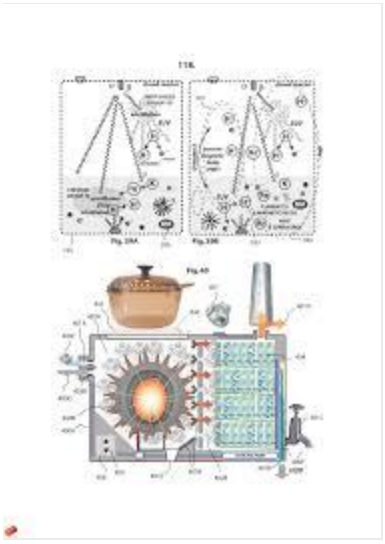

BASIC STRUCTURES OF MATTER
SUPERGRAVITATION UNIFIED THEORY
ALTERNATIVE COSMOLOGY
HIDDEN SPACE ENERGY
STOYAN SARG

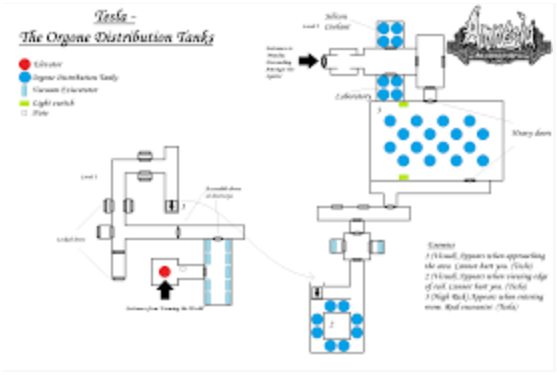

50 W
170 W
265 W

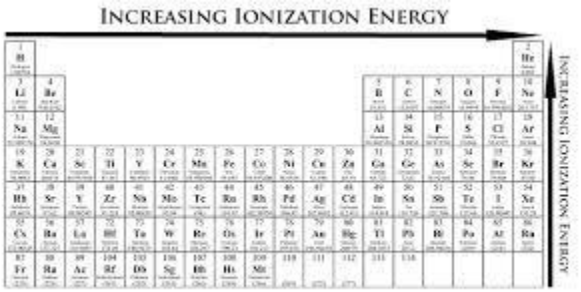








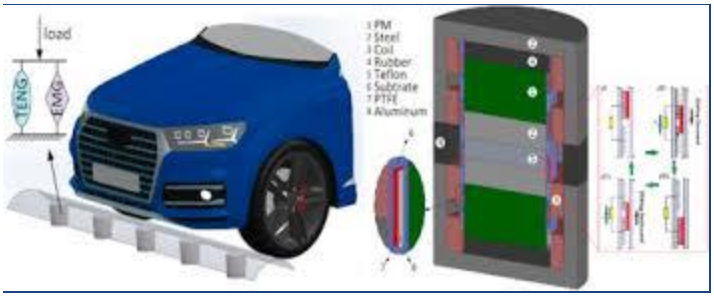

Tesla -
The Orgone Distribution Tanks


INCREASING IONIZATION ENERGY
INCREASING IONIZATION ENERGY

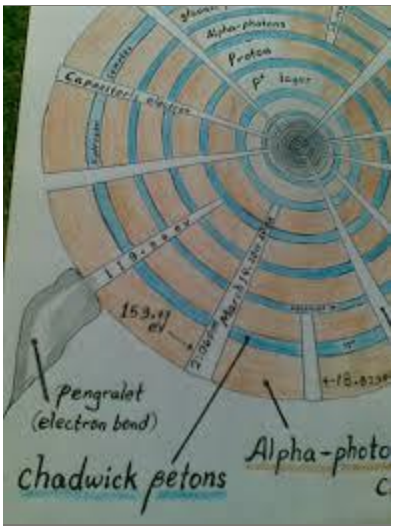


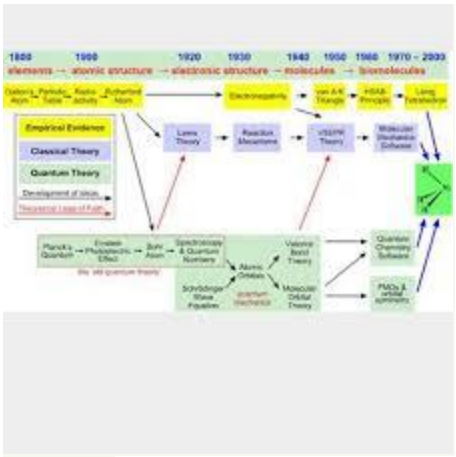




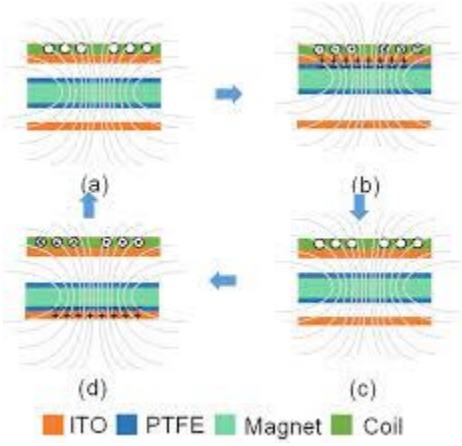

load
TENG
EMG
1 PM
2 Steel
3 Coil
4 Rubber
5 Teflon
6 Subtrate
7 PTFE
8 Aluminum


WE the PEOPLE
YOUR VOICE IN OUR GOVERNMENT
CREATE A PETITION
OPEN PETITIONS
RESPONSES
HOW & WHY
Require representatives from the Office of Science & Technology Policy attend the Citizen Hearing on Disclosure in April
CREATE A PETITION





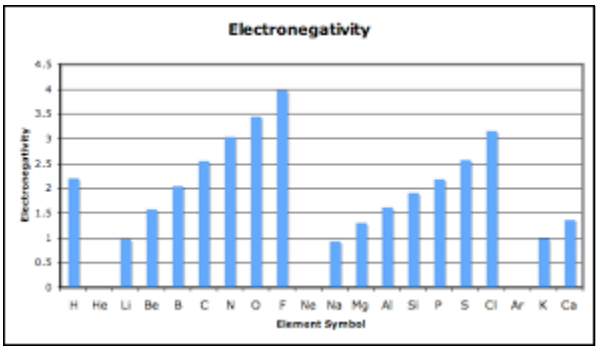
2 days ago

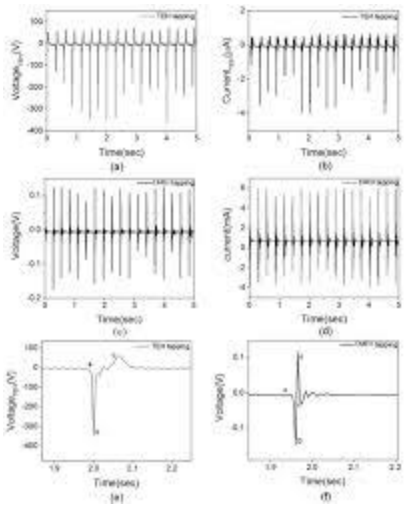


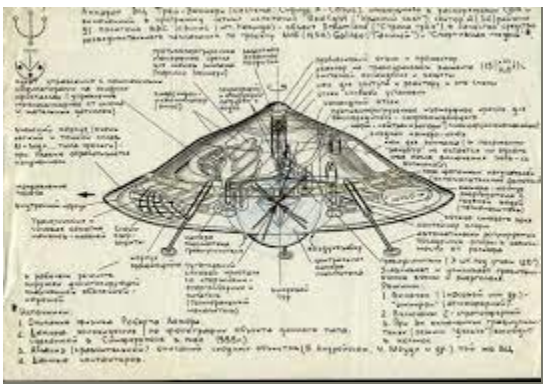


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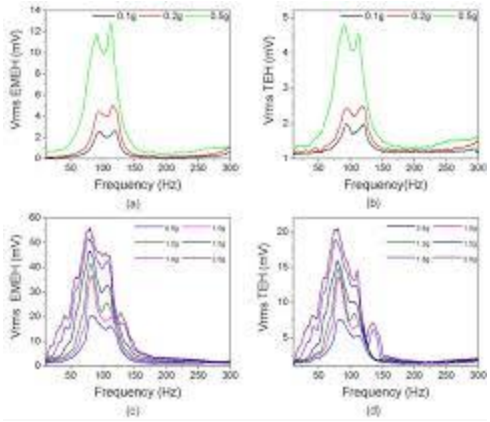




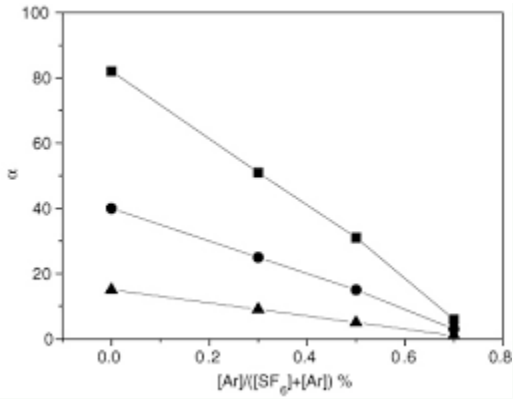


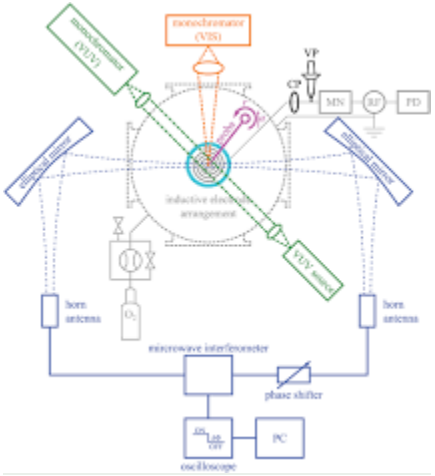




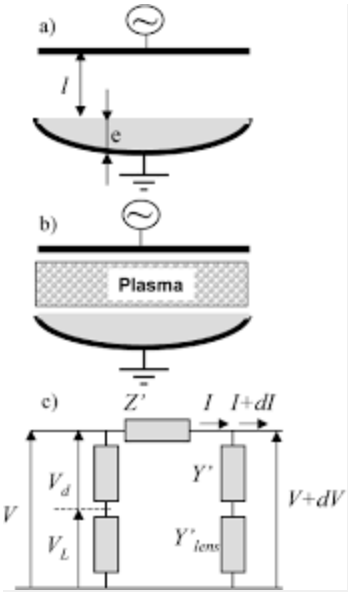

Vrms EMEH (mV)
Vrms TEH (mV)
Frequency (Hz)
(a)
(b)
(c)
(d)



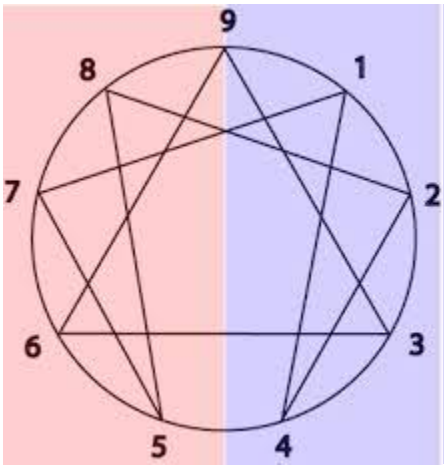

α
[Ar]/([SF6]+[Ar]) %

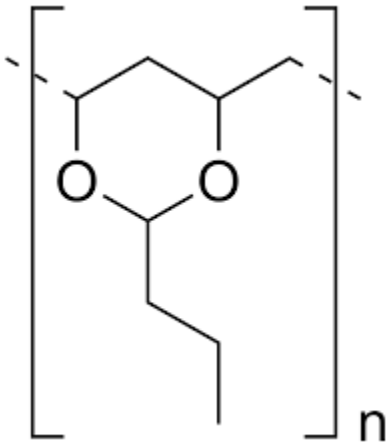

monochromator (VIS)
VP
CP
MN
RF
PD
elliptical mirror
inductive discharge arrangement
VUV source
horn antenna
microwave interferometer
phase shifter
PC
oscilloscope



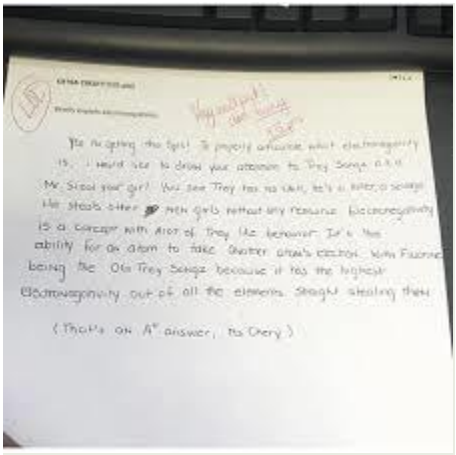

a)
l
e
b)
Plasma
c)
Z'
I
I+dI
V
V_d
V_L
Y'
Y'_{lens}
V+dV


109. 122.
ozcott.com/HomeTronics

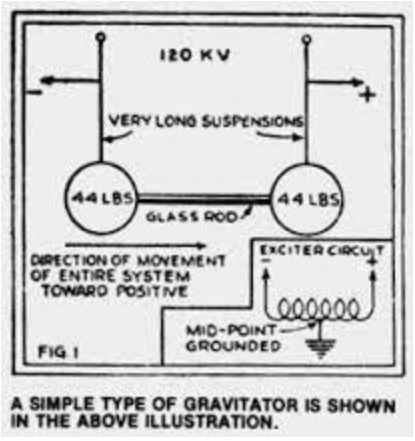

9
8
1
7
2
6
3
5
4


O
O
n

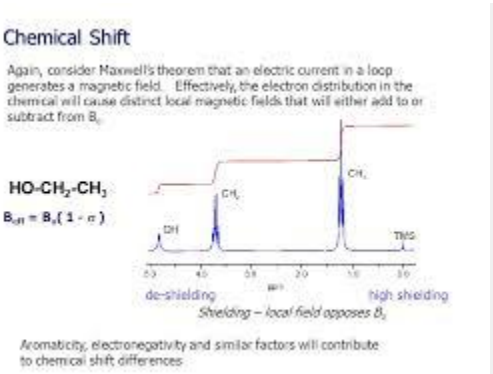



Hey and girl, Owe Sonya
Fluorine
Yo no getting the girl to properly articulate what electronegativity is... I would like to draw your attention to Trey Songz a.k.a Mr. Steal your girl. You see Trey has no skill, he's a hater, a scrub. He steals other 🏀 men girls without any resource. Electronegativity is a concept with Alot of Trey like behavior. It's the ability for an atom to take another atom's electron. With Fluorine being the Ole Trey Songz because it has the highest Electronegativity out of all the elements. Straight stealing them
(That's an A+ answer, Ms Chery)

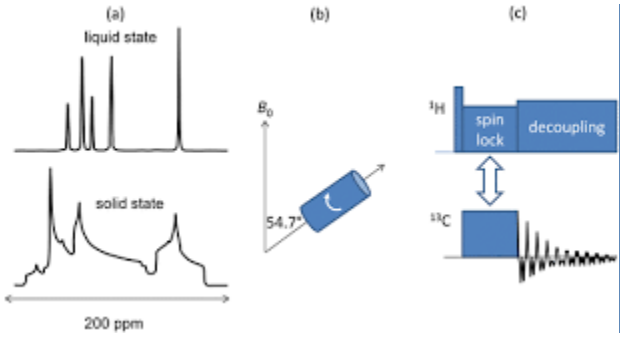




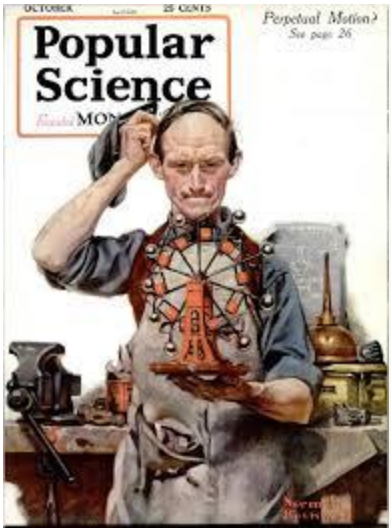
A SIMPLE TYPE OF GRAVITATOR IS SHOWN IN THE ABOVE ILLUSTRATION.



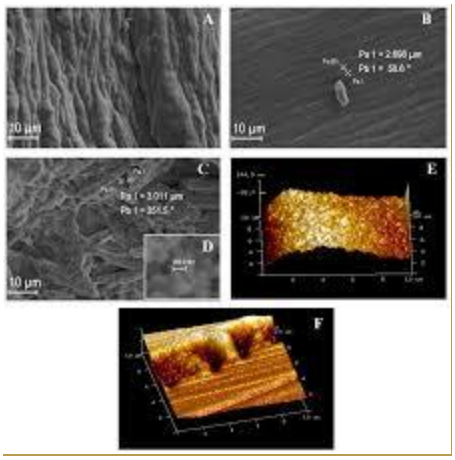










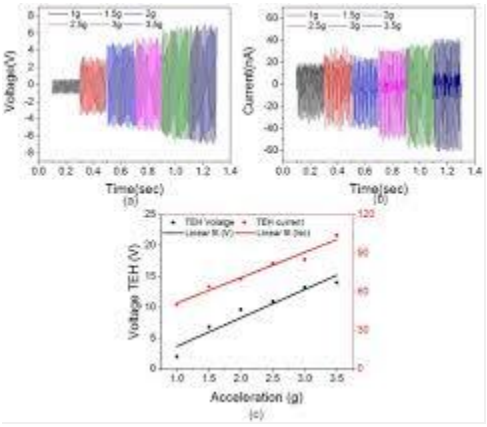


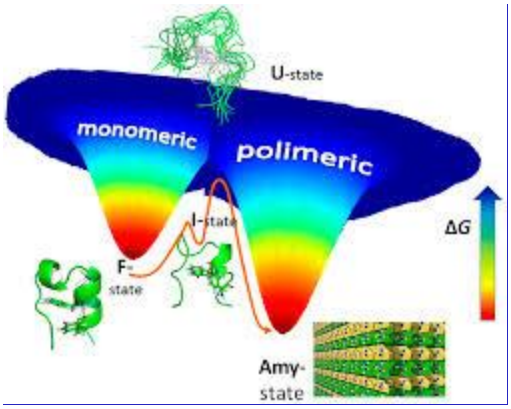
12. It feels like you're getting yelled at

When someone other than a friend refers to you by your last name, you can't help but feel as if there is some sort of negative connotation attached to it.

18. You become offended when people who aren't your friends call you by your last name

Bitch! You don't know me!

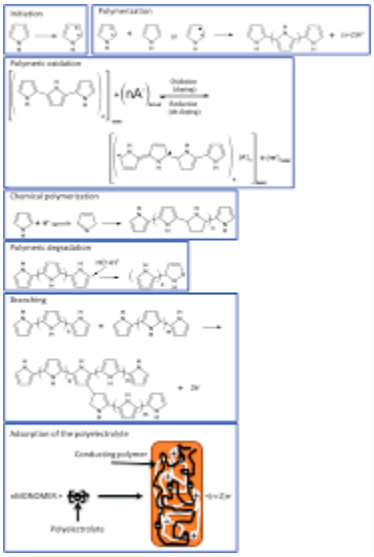




Marginal revenue

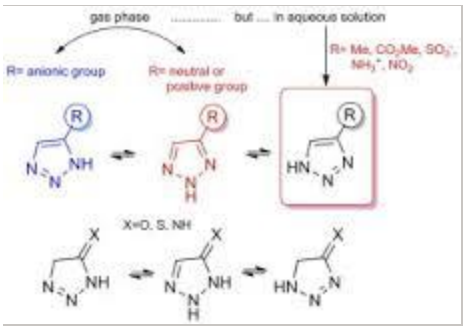
- Marginal revenue
 - How much additional is received by selling one more unit of the good?
 - We must first calculate TR
 - Notice that for Q > 1, MR < P

P	Q	TR	MR
4	0	0	
			3
3	1	3	
			1
2	2	4	
			-1
1	3	3	
			-3
0	4	0	





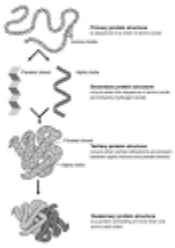


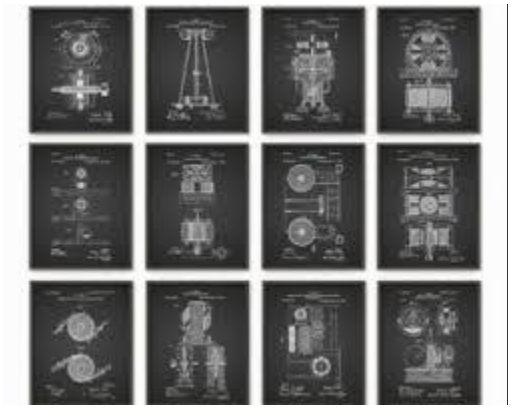


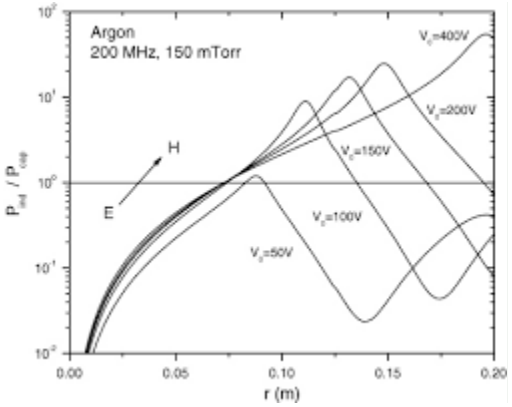


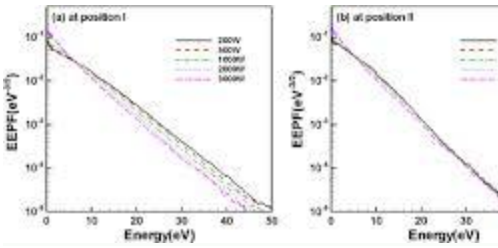
Protein Structure

- Classification of protein structure:
 - primary: amino acid sequence;
 - secondary : alpha helix, beta sheet, random coil (i.e. something more complex);
 - tertiary: overall shape of polypeptide;
 - quaternary: how all subunits and co-factors fit together.

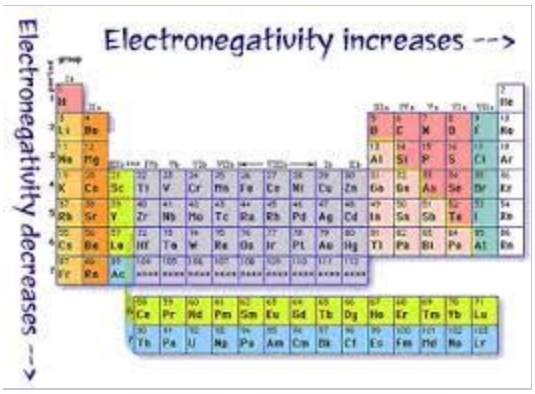


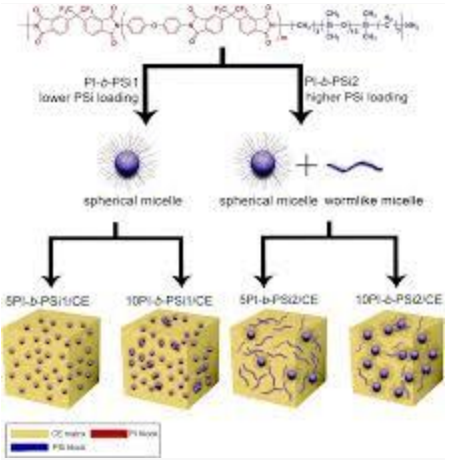


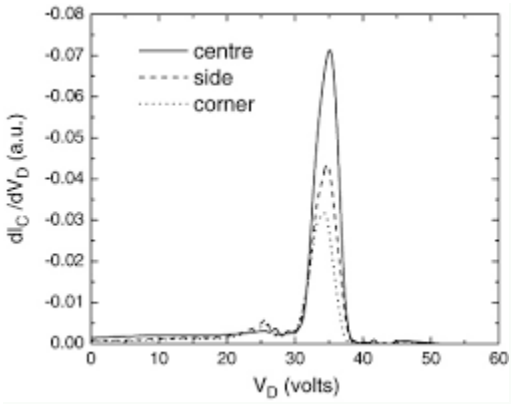


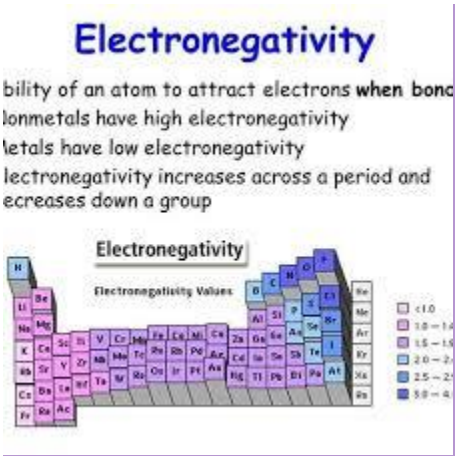


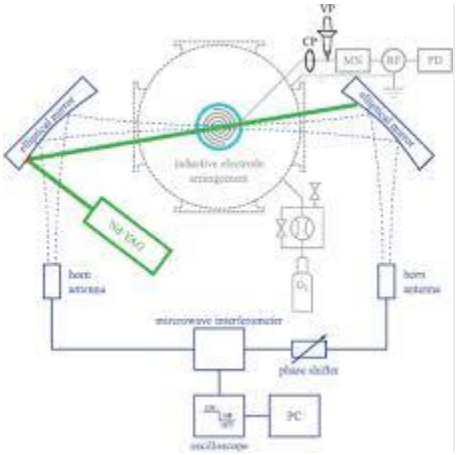



Electronegativity increases -->
Electronegativity decreases -->


PI-b-PSI1
lower PSI loading
PI-b-PSI2
higher PSI loading
spherical micelle
spherical micelle
wormlike micelle
5PI-b-PSI1/CE
10PI-b-PSI1/CE
5PI-b-PSI2/CE
10PI-b-PSI2/CE


centre
side
corner
dI_C/dV_D (a.u.)
V_D (volts)


Electronegativity
bility of an atom to attract electrons when bonc
lonmetals have high electronegativity
letals have low electronegativity
lectronegativity increases across a period and
ecreases down a group
Electronegativity
Electronegativity Values


VP
CP
MN
RF
PD
elliptical mirror
elliptical mirror
inductive electrode arrangement
Nd YAG
horn antenna
horn antenna
microwave interferometer
phase shifter
PC
oscilloscope







History: 1950's

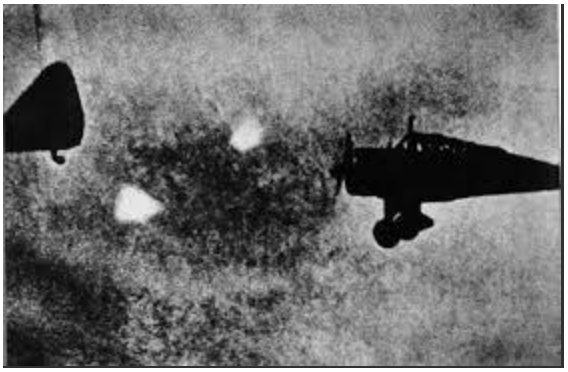
- In 1958, engineer Earl Bakken of Minneapolis, Minnesota, produced the first wearable external pacemaker for a patient of Dr. C. Walton Lillehei. This transistorised pacemaker, housed in a small plastic box, had controls to permit adjustment of pacing heart rate and output voltage and was connected to electrode leads which passed through the skin of the patient to terminate in electrodes attached to the surface of the myocardium of the heart.

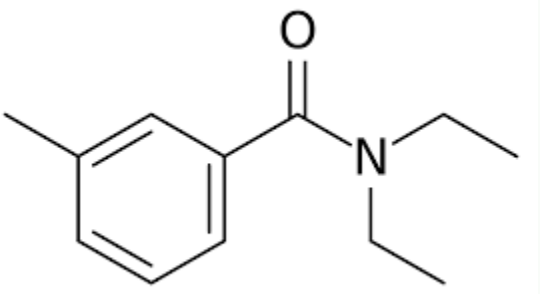




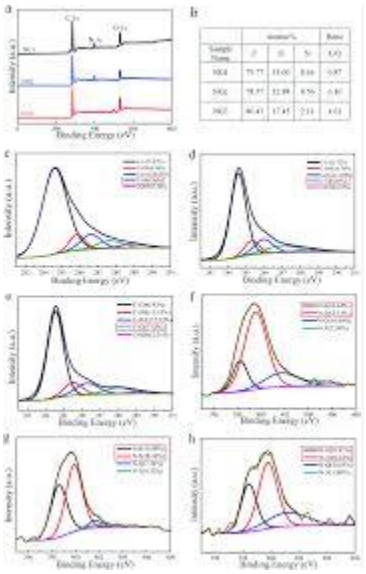


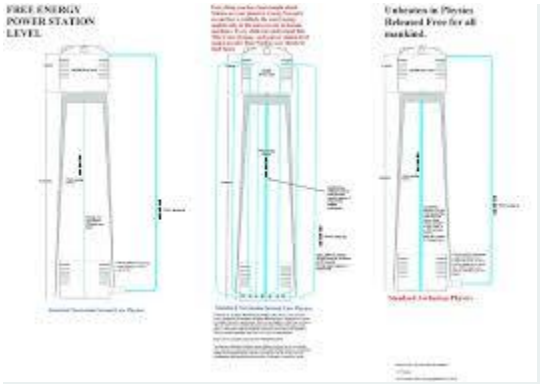


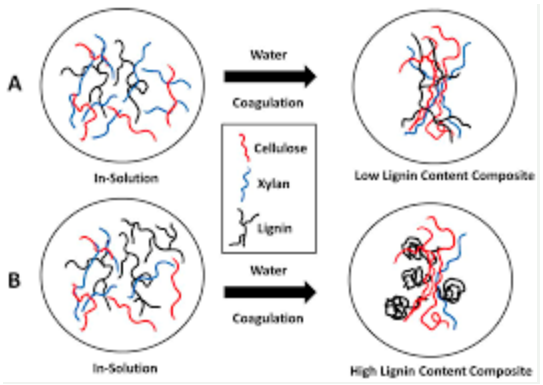


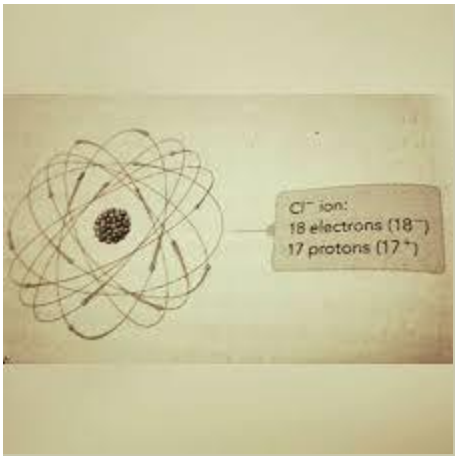








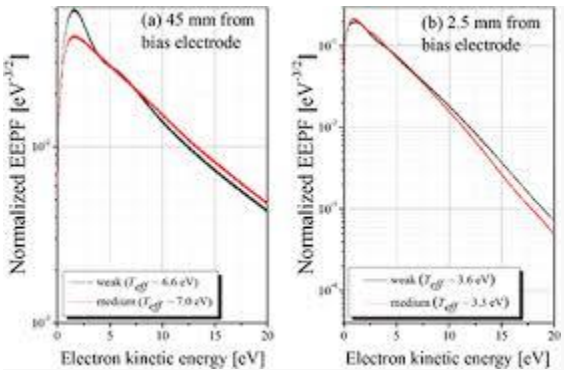


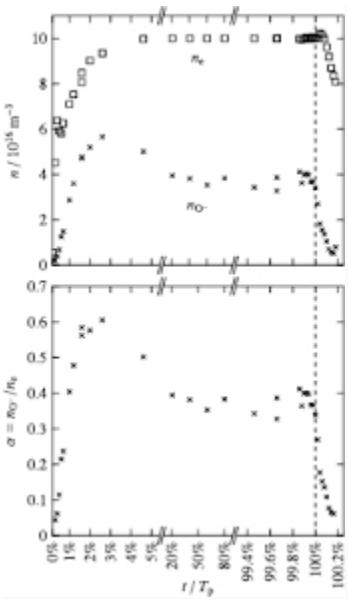




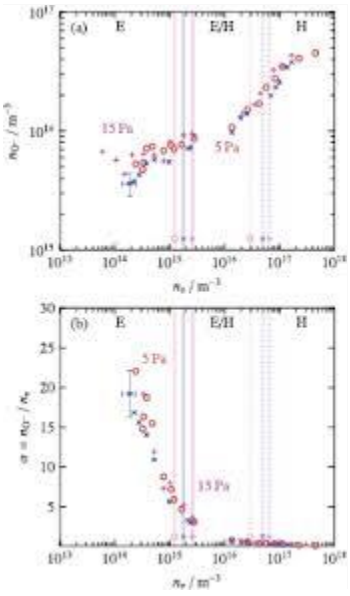
★★★★½ (85 Reviews)

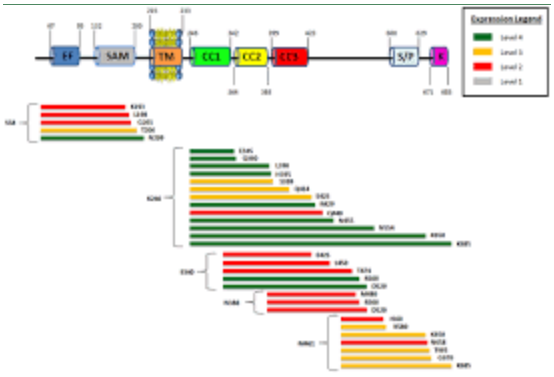
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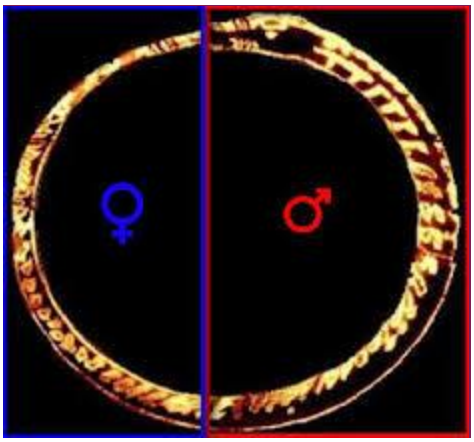


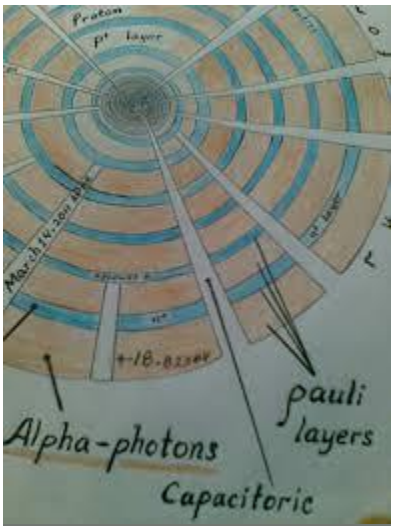




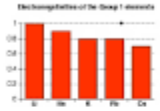








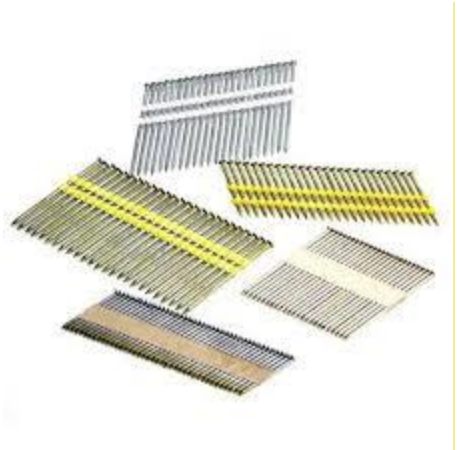
Trends in Electronegativity

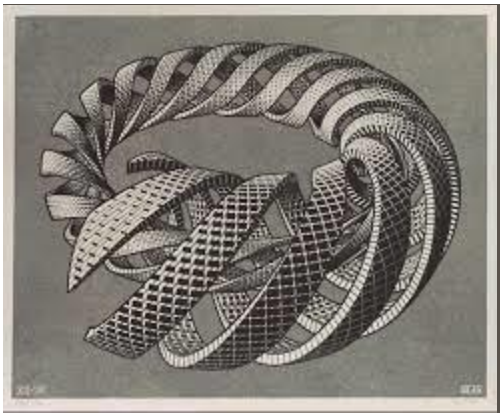


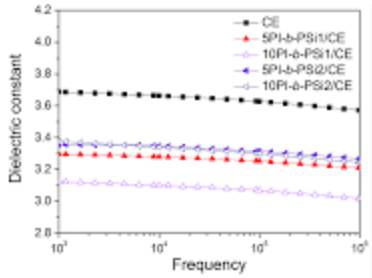
- Electronegativity is a measure of the tendency of an atom to attract a bonding pair of electrons.
- Most electronegative element in the periodic table is Fluroine

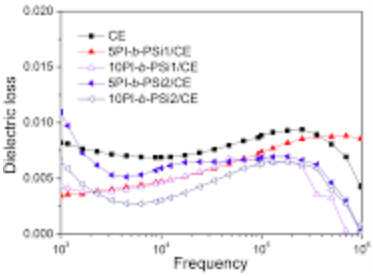


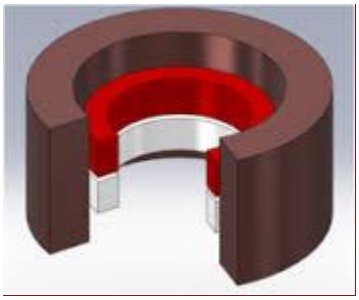


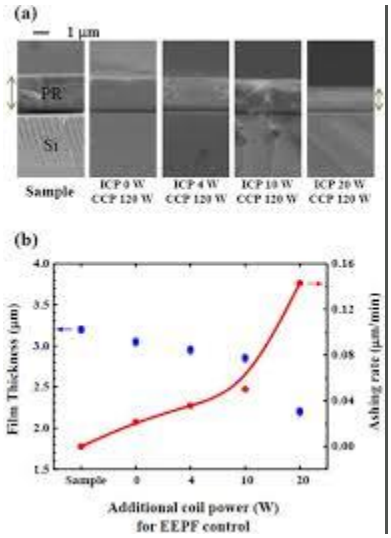












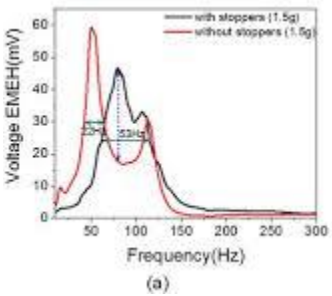
Factors to Affect ^{1}H Chemical Shift

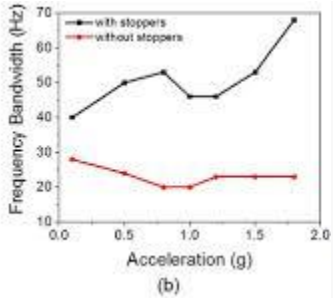
Chemical shift : (1) electronegativity of nearby atoms, (2) hybridization of adjacent atoms, and (3) diamagnetic effects

Electronegativity

CH_3-X	Electronegativity of X	Chemical Shift (δ)
CH_3F	4.0	4.26
CH_3OH	3.5	3.47
CH_3Cl	3.1	3.05
CH_3Br	2.8	2.68
CH_3I	2.5	2.16
$(CH_3)_4C$	2.1	0.86
$(CH_3)_4Si$	1.8	0.00

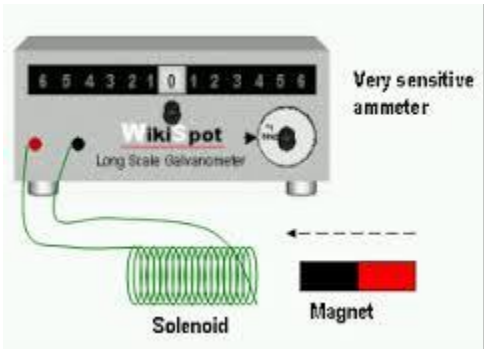












Answer

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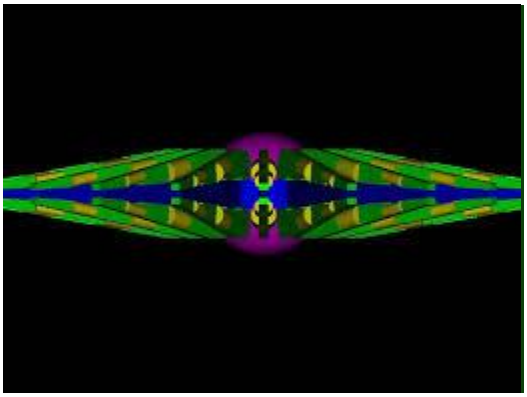
Sean Bell

- Sean bell was holding his bachelor party at Club Kalua in the Jamaica section of Queens.
- The club was being investigated by seven undercover police detectives due to speculation that the owners of the club had been fostering prostitution.
- The officers feared there would be a shooting after allegedly hearing Bell's friend (Guzman) ask for his gun.

5 days ago

A table of typical chemical shifts in C-13 NMR spectra

carbon environment	chemical shift (ppm)
C=O (in ketones)	205 - 220
C=O (in aldehydes)	190 - 200
C=O (in acids and esters)	170 - 185
C in aromatic rings	125 - 150
C=C (in alkenes)	115 - 140
RCH_2OH	50 - 65
RCH_2Cl	40 - 45
RCH_2NH_2	37 - 45
R_2CH	25 - 35
CH_3CO-	20 - 30
R_2CH_2	15 - 25
RCH_3	10 - 15

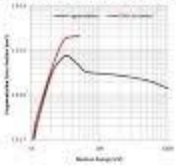


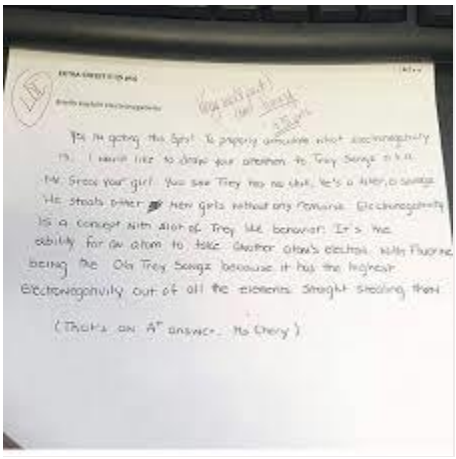
OREGON PHYSICS

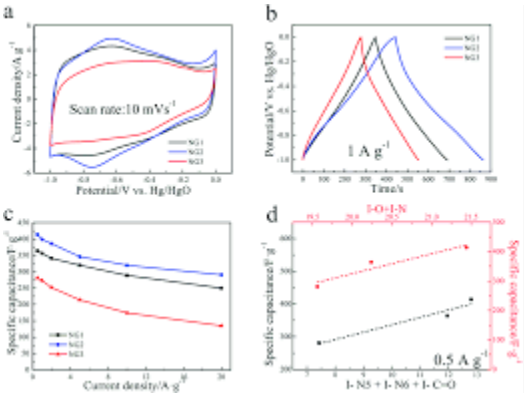
C_{60} Ion Beams with ICP Ion Source ??

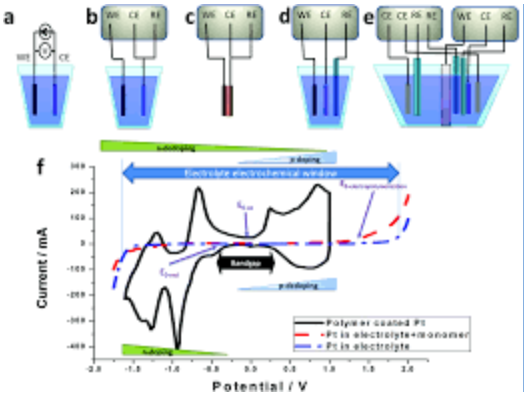
C_{60}^+ ion Densities of ~$1x10^{11}$ cm^{-3} required.

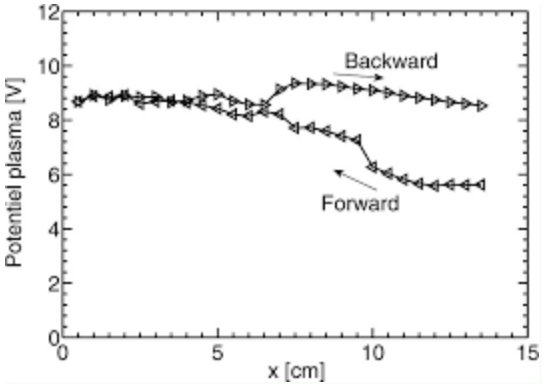
- Electronegativity of C is too great for pure C_{60} plasma
- Use electropositive carrier gas (eg xenon)
- Internal vibration energy of C_{60} needs to be kept <44eV to prevent fragmentation
- Main constraint is that the x-section for fragmentation and ionization are similar at <20eV



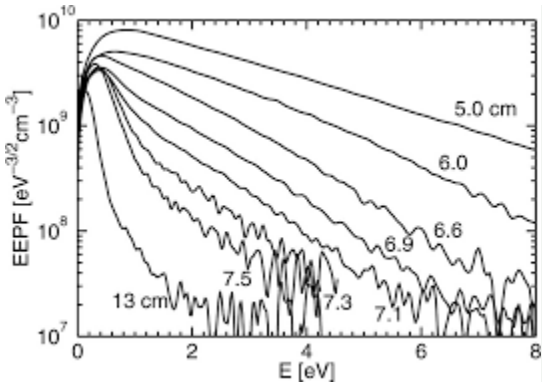






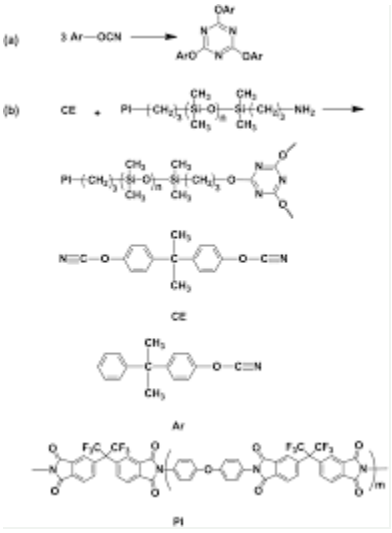


- The individual strands can form a helical coil called an alpha helix. *(primary structure)*
- These helical coils are called *secondary structures*.
- If the helical coils form spherical globular proteins or form fibrous proteins, then they form what are known as *tertiary structures*.
- Finally, the globular proteins may cluster together in groups to yield a *quaternary structure*.
- The different structures are caused by various intermolecular forces of attraction.











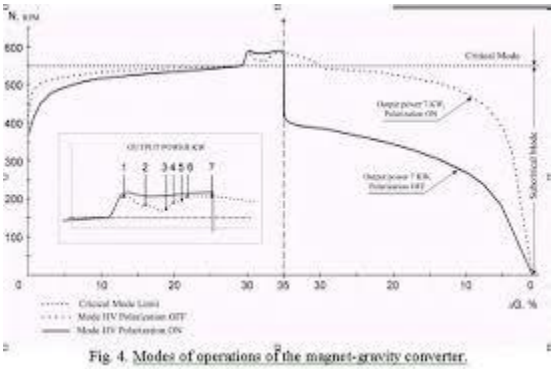
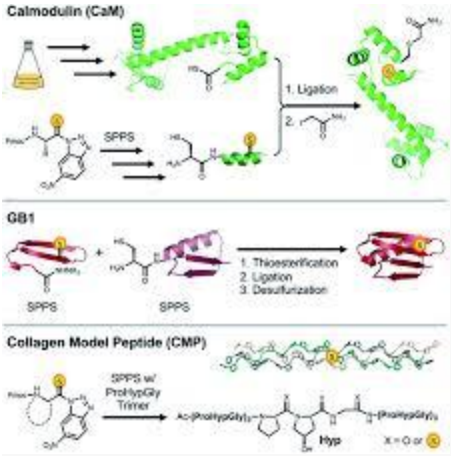
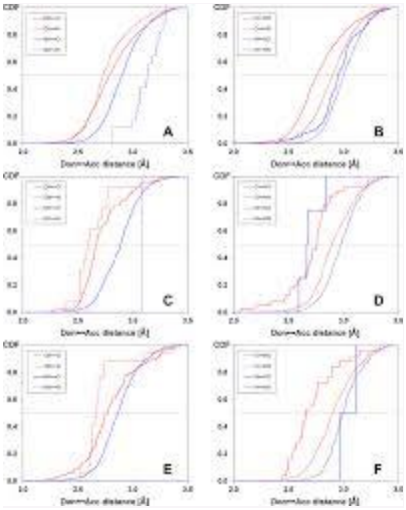
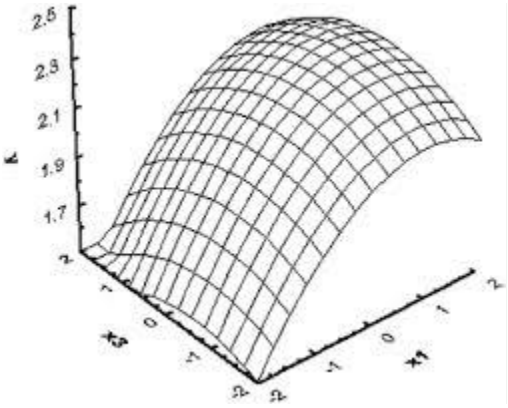


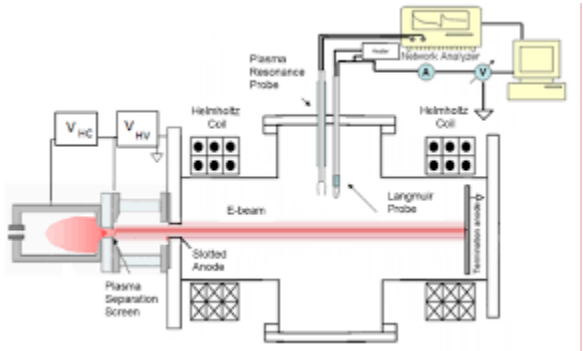
Fig. 4. Modes of operations of the magnet-gravity converter.



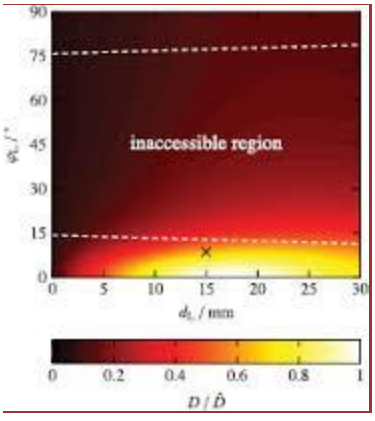




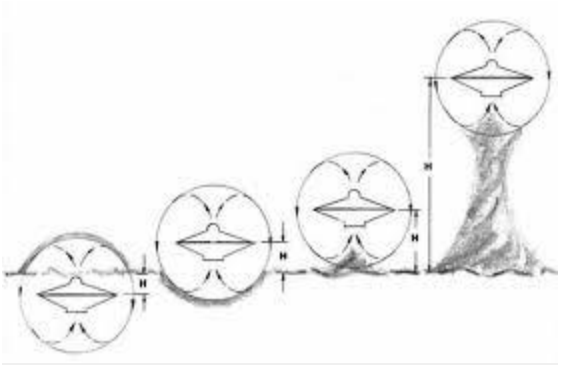


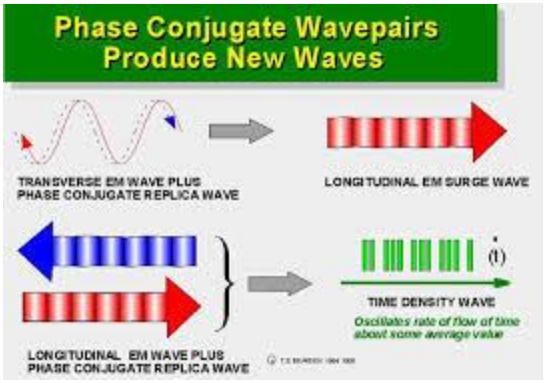


$$(1)\ \mathrm{CP} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \mathrm{e}^-$$
$$(2)\ \left(\mathrm{CP}^+\right)\left(\mathrm{A}^-\right) + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \mathrm{e}^-$$
$$(3)\ \left(\mathrm{CP}^{2+}\right)\left(\mathrm{A}^-\right)_2 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \mathrm{e}^-$$
$$(4)\ \left(\mathrm{CP}^{3+}\right)\left(\mathrm{A}^-\right)_3 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \mathrm{e}^-$$
$$(5)\ \left(\mathrm{CP}^{4+}\right)\left(\mathrm{A}^-\right)_4 + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{5+}\right)\left(\mathrm{A}^-\right)_5 + \mathrm{e}^-$$
$$\ldots$$
$$(6)\ \left(\mathrm{CP}^{(n-1)+}\right)\left(\mathrm{A}^-\right)_{(n-1)} + \left(\mathrm{A}^-\right)_{\mathrm{solv}} \rightleftharpoons \left(\mathrm{CP}^{n+}\right)\left(\mathrm{A}^-\right)_n + \mathrm{e}^-$$







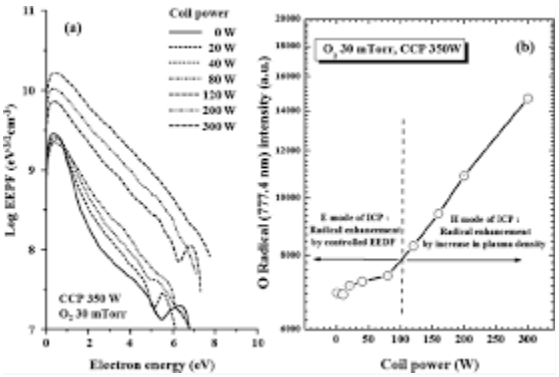


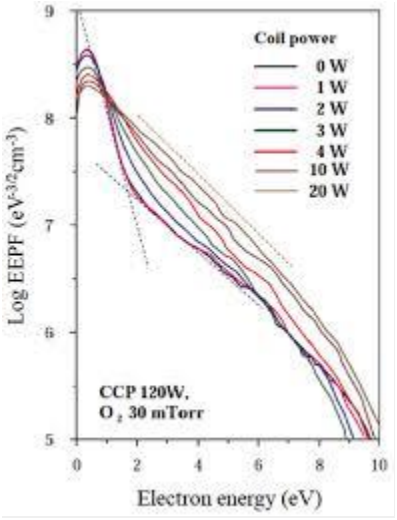
RADIO FREQUENCY RECEIVER OR DETECTOR

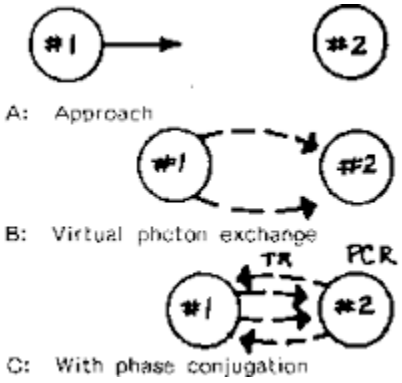
- A few turns of wire is wound around the sample tube lightly. The receiver coil is perpendicular to both the external magnetic and radiofrequency transmitter coil.
- When RF radiation is passed through the magnetised sample, resonance occurs which cause the current voltage across the coil to drop.
- This electrical signal is small and is usually amplified before recording.

Detection of NMR.

- When the radiofrequency radiation is passed through the magnetised sample two phenomena namely absorption and dispersion may occur.
- The absorption of either signal will enable the resonance frequency to be determined. It is found that the interpretation of absorption spectrum is easier as compared to the dispersion spectrum.
- The detector should be capable of separating absorption signal from dispersion signals.

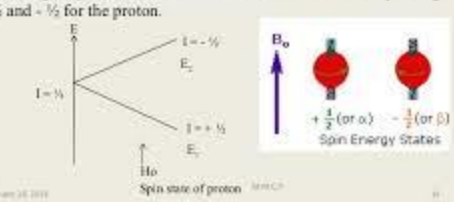




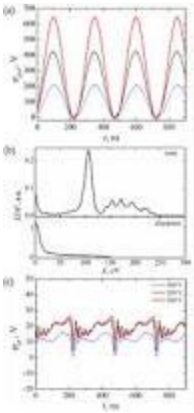


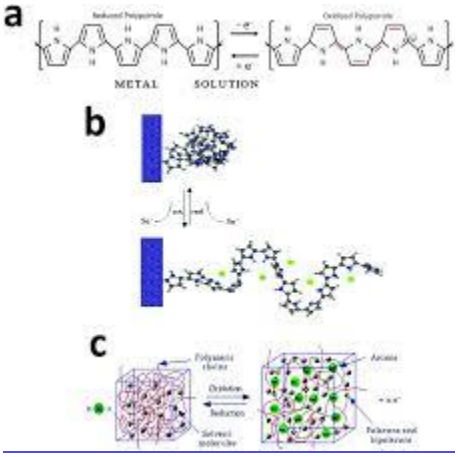
THEORY AND PRINCIPLE

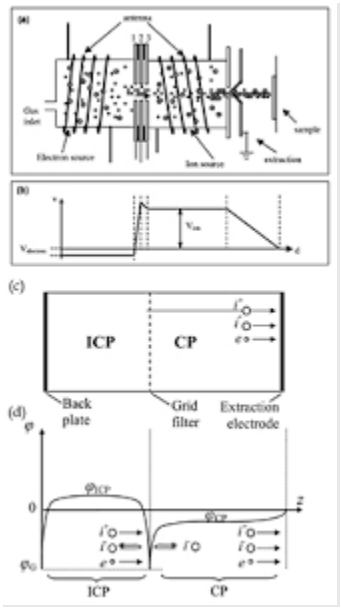
- The NMR is mostly consult with nucleus spin quantum no. (I)= ½ . The proton having a I = ½ when place in external magnetic field (Ho) it's start to spin around the nuclear axis and generate a another magnetic field.
- According to quantum mechanics there are 2I + 1 so two spin stage + ½ and - ½ for the proton.

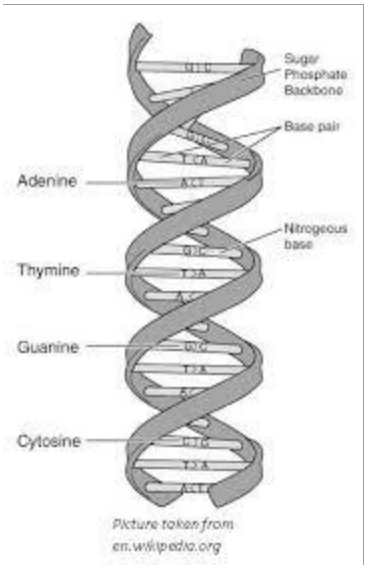


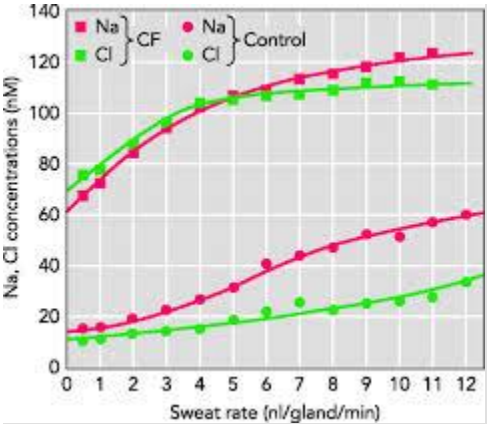












Interactions within Molecules

- Some atoms attract electrons much more strongly than other atoms
- This property is referred to as an atom's **electronegativity**
 - Oxygen, nitrogen, and chlorine have high electronegativity
 - Hydrogen, carbon, and phosphorus have low electronegativity
- When two atoms share electrons, the electrons are more attracted to the atom with the higher electronegativity
 - Electrons have a negative charge, so that atom would assume a slightly negative charge (δ-)
 - The atom with lower electronegativity assumes a partial positive charge (δ+)

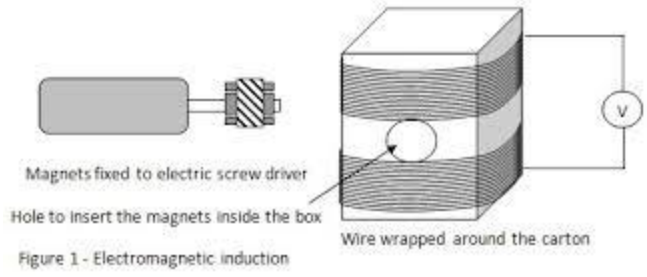
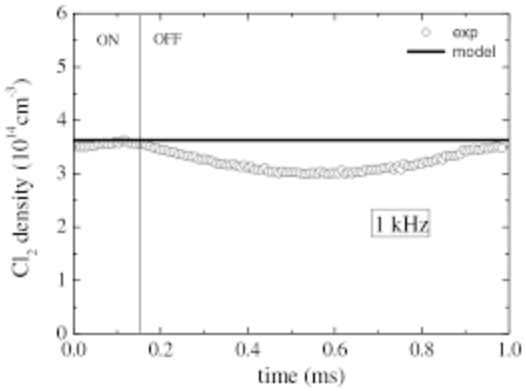
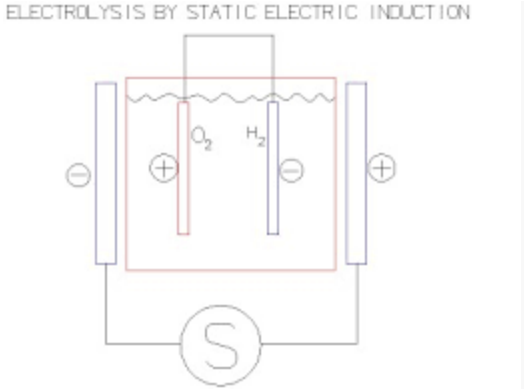
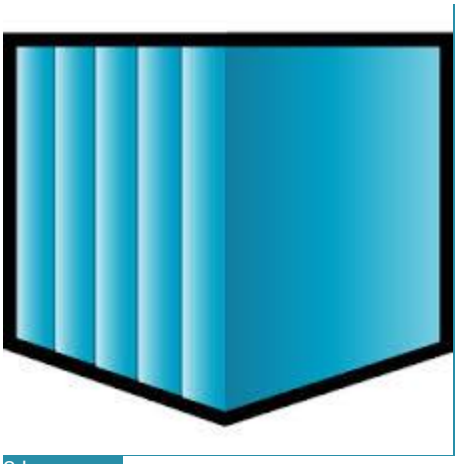


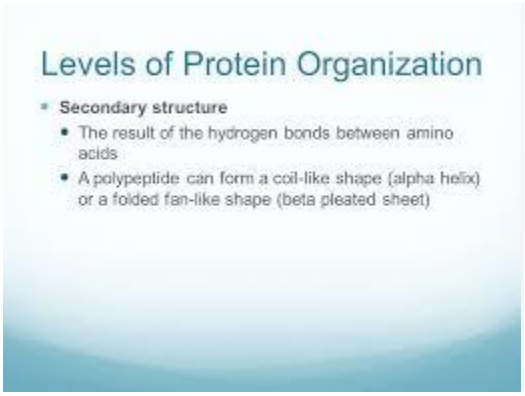
Figure 1 - Electromagnetic induction

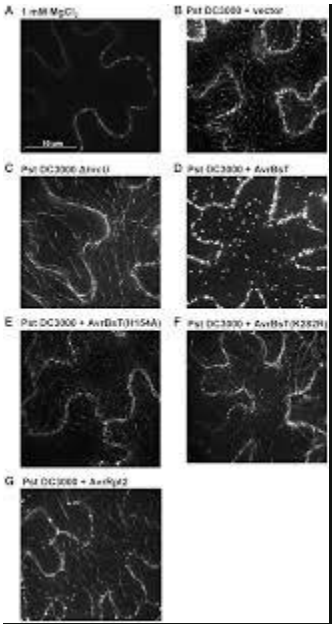

ON
OFF
exp
model
1 kHz
Cl_2 density (10^{14} cm^{-3})
time (ms)


ELECTROLYSIS BY STATIC ELECTRIC INDUCTION
O_2
H_2
S

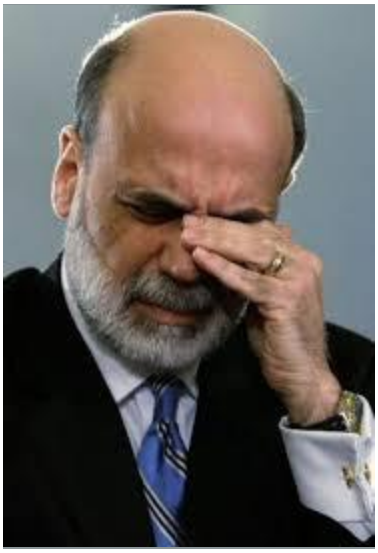


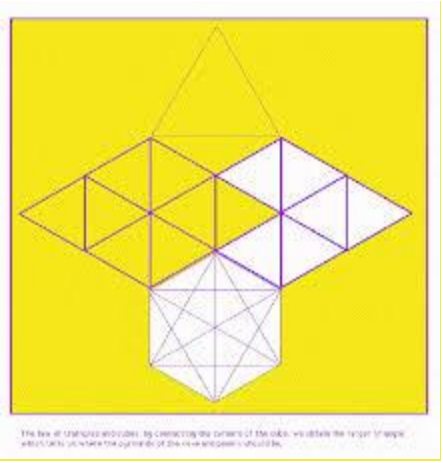
8 hours ago

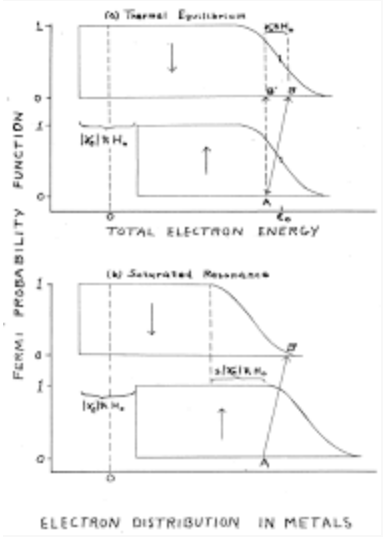

Levels of Protein Organization
Secondary structure
The result of the hydrogen bonds between amino acids
A polypeptide can form a coil-like shape (alpha helix) or a folded fan-like shape (beta pleated sheet)

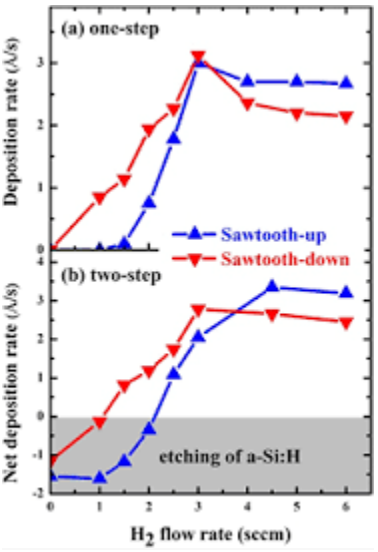


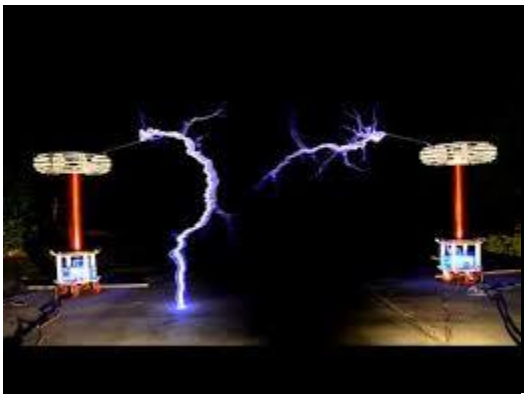


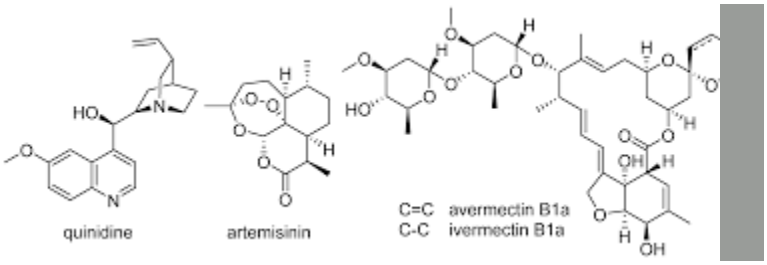


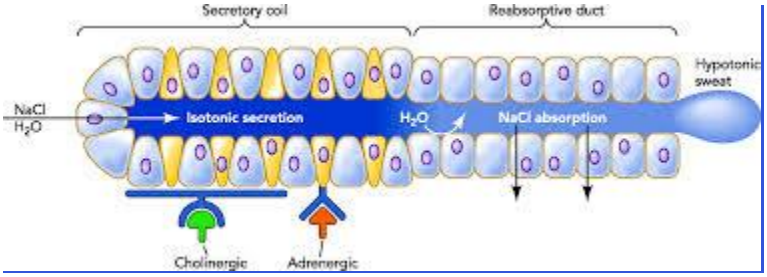


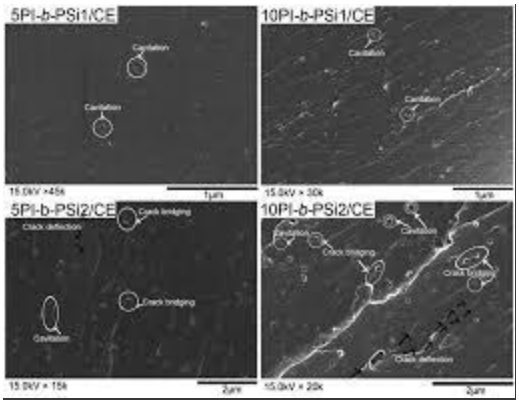

(a) Thermal Equilibrium
FERMI PROBABILITY FUNCTION
TOTAL ELECTRON ENERGY
(b) Saturated Resonance
ELECTRON DISTRIBUTION IN METALS

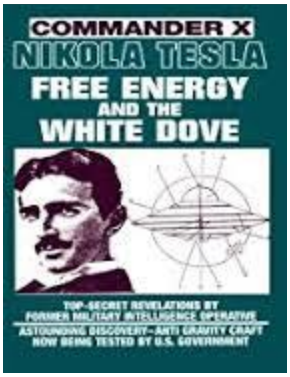

(a) one-step
Deposition rate (Å/s)
Sawtooth-up
Sawtooth-down
(b) two-step
Net deposition rate (Å/s)
etching of a-Si:H
H2 flow rate (sccm)

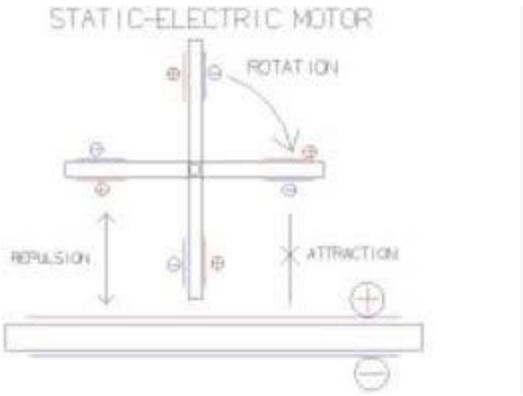



quinidine
artemisinin
C=C avermectin B1a
C-C ivermectin B1a

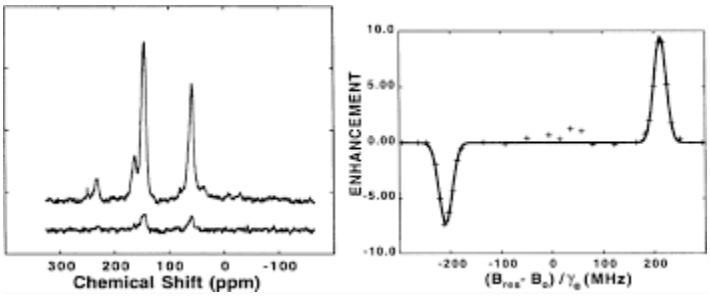

Secretory coil
Reabsorptive duct
Hypotonic sweat
NaCl
H2O
Isotonic secretion
H2O
NaCl absorption
Cholinergic
Adrenergic

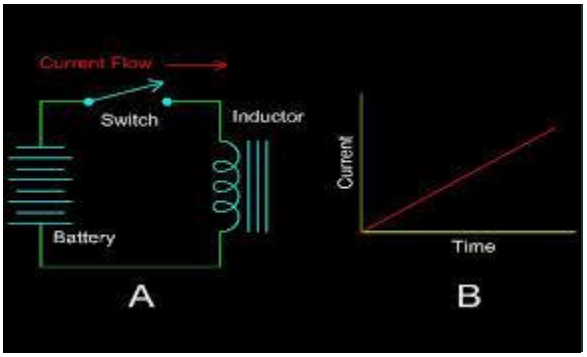

5Pl-b-PSi1/CE
10Pl-b-PSi1/CE
5Pl-b-PSi2/CE
10Pl-b-PSi2/CE
Cavitation
Crack bridging
Crack deflection

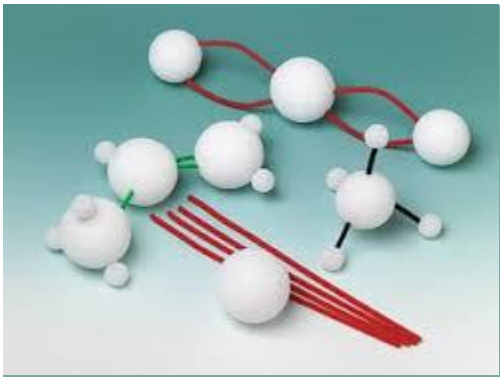

COMMANDER X
NIKOLA TESLA
FREE ENERGY
AND THE
WHITE DOVE
TOP-SECRET REVELATIONS BY
FORMER MILITARY INTELLIGENCE OPERATIVE
ASTOUNDING DISCOVERY-ANTI GRAVITY CRAFT
NOW BEING TESTED BY U.S. GOVERNMENT

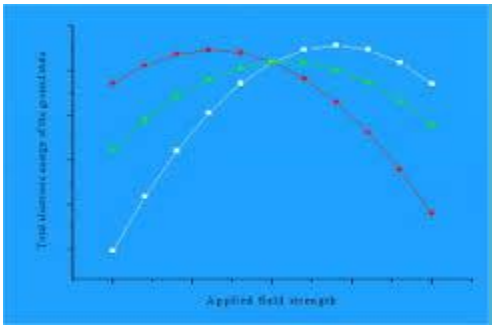

STATIC-ELECTRIC MOTOR
ROTATION
REPULSION
ATTRACTION




300 200 100 0 -100
Chemical Shift (ppm)
ENHANCEMENT
10.0
5.00
0.00
-5.00
-10.0
-200 -100 0 100 200
(B_res - B_o) / γ_e (MHz)

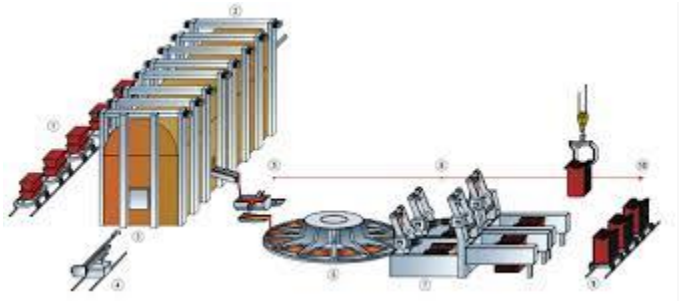

Current Flow
Switch
Inductor
Battery
Current
Time
A
B

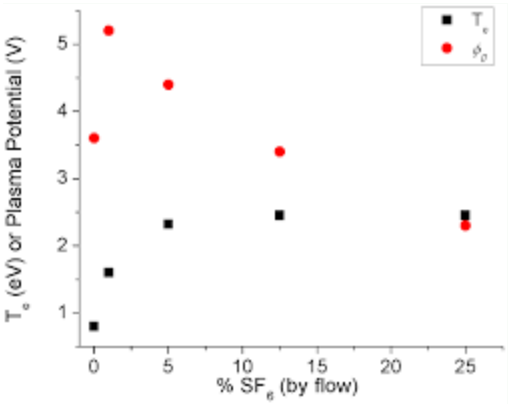




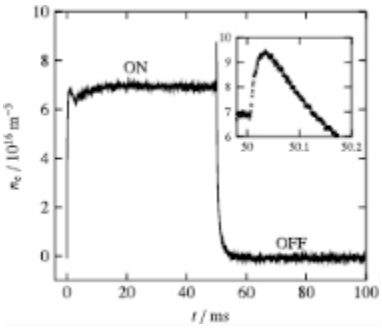



FREE ENERGY PIONEER:
John Worrell Keely









Gradient electrical field

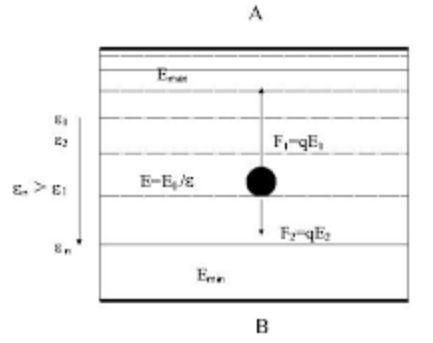
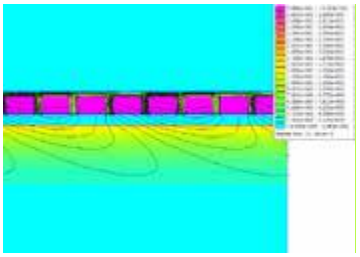
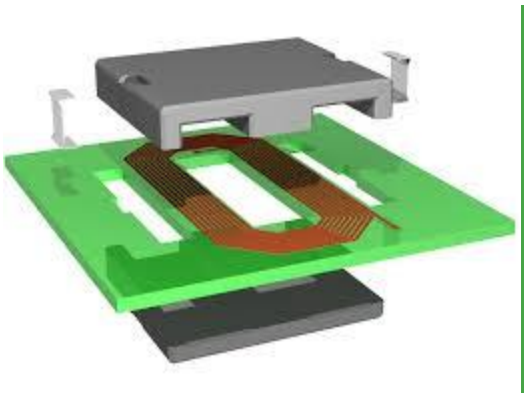


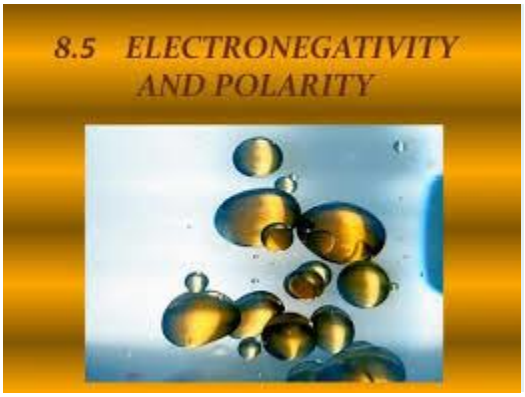
Fig. 3

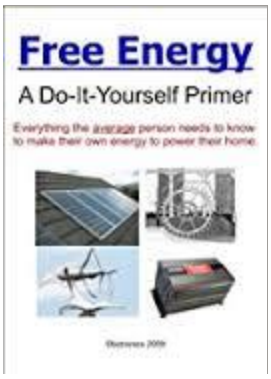


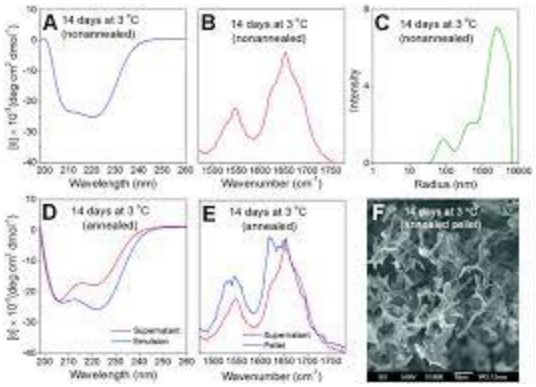












(c): From Faraday's laws of electromagnetic induction,

$$e = -L\frac{I_1 - I_2}{t}$$

$$\text{or} \quad e = -\frac{L(2-4)}{0.05} = L\frac{2}{0.05}$$

$$\Rightarrow \quad L = \frac{0.05e}{2} = \frac{0.05 \times 8}{2} = 4 \times 0.05 = 0.20\,\text{H}.$$



Part III
Electricity

Electricity deals with stationary and moving electric charges, the actions of forces between them, and the electric and magnetic fields generated by them.

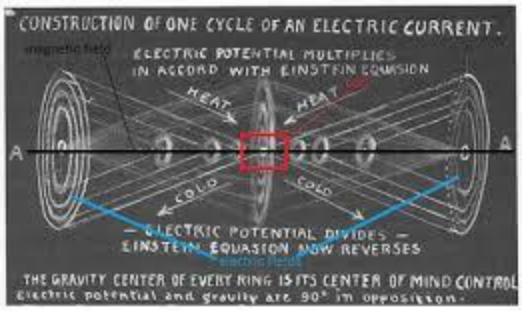
There are applications of electricity in these fields:

- electrical engineering, e.g., in direct-current, alternating-current and three-phase-current engineering, in calculations of circuits, and in the construction of generators and motors;
- electrochemistry, e.g., in charge transport in electrolytes, and in the production of batteries;
- electronics, e.g., in development and application of electronic components in analog and digital electronics, and in the development of computers;
- plasma physics, e.g., in generation of light, materials processing, energy production and formation of ion beams from ion sources;
- accelerator physics, in the transport and acceleration of ions and electrons;
- telecommunications engineering, information processing, signal processing.

Furthermore, electricity is of basic importance for the fields:

- atomic physics, and
- solid-state physics.





(d): We know that, $\phi = BA$

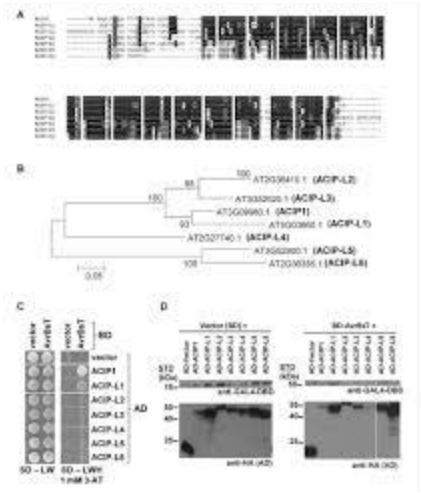
Now, on rotating the coil through 90°, the magnetic flux passing through it becomes zero, so the change in magnetic flux,

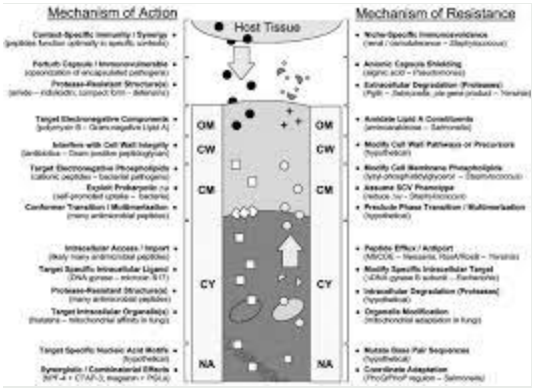
$$\Delta\phi = 0 - \phi = -BA$$
$$= -(5.0 \times 10^{-5}) \times (0.04)$$
$$= -2.0 \times 10^{-6}\ \text{Wb}$$

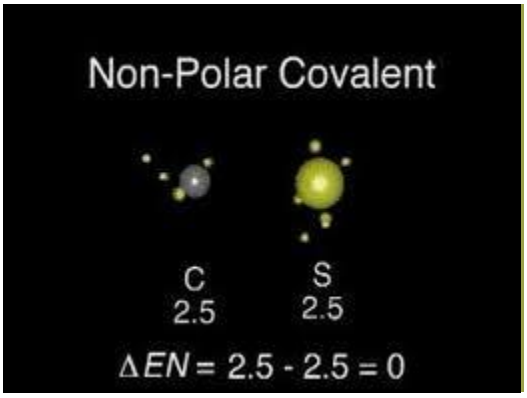
Again, $\Delta t = 0.2$ second

Therefore, induced *emf*

$$e = -N\frac{d\phi}{dt} = -1000\left(\frac{-2.0 \times 10^{-6}}{0.2}\right) = 0.01\text{V}$$

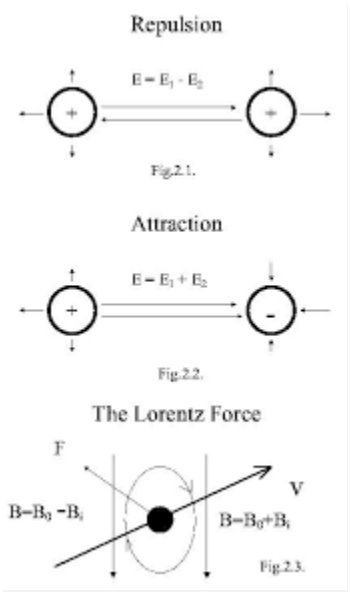

A
B
C
D
SD – LW
SD – LWH
1 mM 3-AT
AD

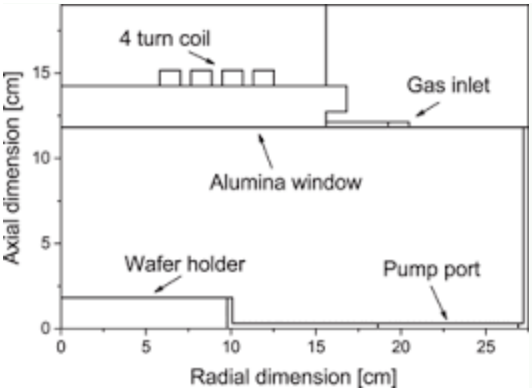

Mechanism of Action
Host Tissue
Mechanism of Resistance
OM
CW
CM
CY
NA

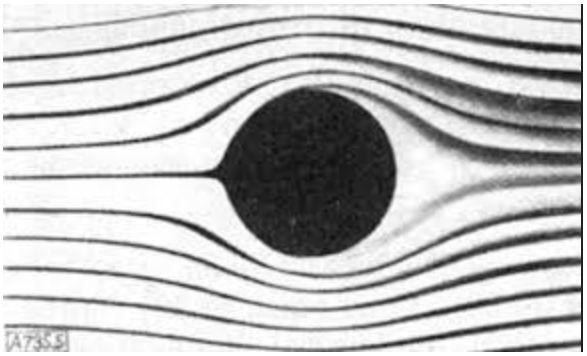

Non-Polar Covalent
C
2.5
S
2.5
ΔEN = 2.5 - 2.5 = 0


THE FREE-ENERGY DEVICE HANDBOOK
A Compilation of Patents & Reports




Repulsion
E = E1 - E2
Fig.2.1.
Attraction
E = E1 + E2
Fig.2.2.
The Lorentz Force
F
V
B=B0 -Bi
B=B0+Bi
Fig.2.3.


4 turn coil
Gas inlet
Alumina window
Wafer holder
Pump port
Axial dimension [cm]
Radial dimension [cm]
0
5
10
15
20
25



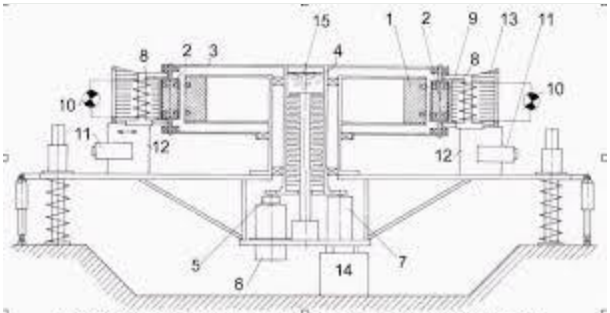
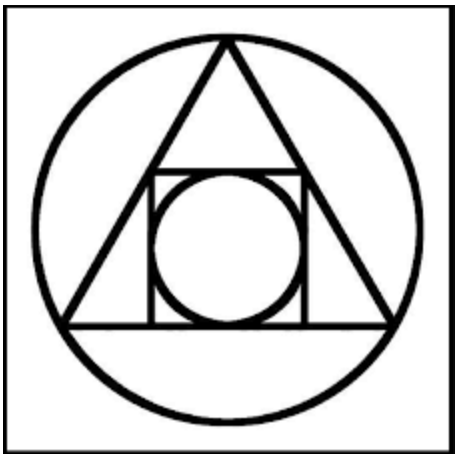
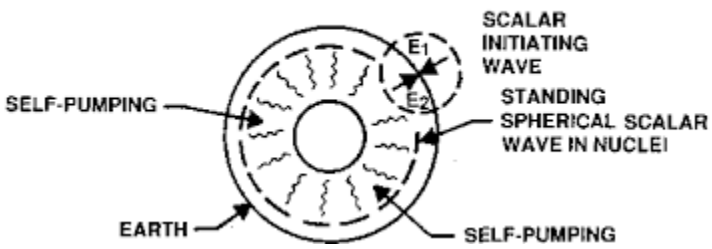


Fig 3. The general view of the platform with one-ring converter.



[NOTE: WHITTAKER STANDING SCALAR WAVES]



$$\left(\rho + \varepsilon_0 \frac{\partial S}{\partial t}\right)\mathbf{E} + \left(\mathbf{J} - \frac{1}{\lambda_0\mu_0}\nabla S\right)\times\mathbf{B} =$$

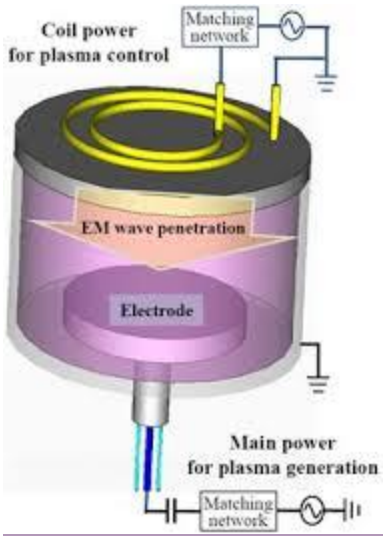
$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial S}{\partial t}\mathbf{E} - \frac{1}{\lambda_0\mu_0}\nabla S\times\mathbf{B} =$$

$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} - \varepsilon_0 S\frac{\partial \mathbf{E}}{\partial t} - \frac{1}{\lambda_0\mu_0}\nabla S\times\mathbf{B} =$$

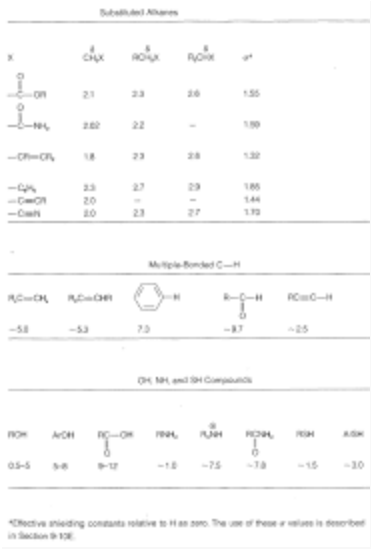
$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B}) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} + S\left(\mathbf{J} - \frac{1}{\lambda_0\mu_0}\nabla S - \frac{1}{\mu_0}\nabla\times\mathbf{B}\right) - \frac{1}{\lambda_0\mu_0}\nabla S\times\mathbf{B} =$$

$$(\rho\mathbf{E} + \mathbf{J}\times\mathbf{B} + \mathbf{J}S) + \varepsilon_0 \frac{\partial (S\mathbf{E})}{\partial t} - S\left(\frac{1}{\lambda_0\mu_0}\nabla S + \frac{1}{\mu_0}\nabla\times\mathbf{B}\right) - \frac{1}{\lambda_0\mu_0}\nabla S\times\mathbf{B}$$









Substituted Alkanes

X	CH_3X	RCH_2X	R_2CHX	σ^*
$-\overset{O}{\overset{\|}{C}}-OR$	2.1	2.3	2.6	1.55
$-\overset{O}{\overset{\|}{C}}-NH_2$	2.62	2.2	–	1.59
$-CH{=}CH_2$	1.8	2.3	2.6	1.32
$-C_6H_5$	2.3	2.7	2.9	1.85
$-CH_2OR$	2.0	–	–	1.44
$-CH_2N$	2.0	2.3	2.7	1.70

Multiple-Bonded C—H

$H_2C{=}CH_2$	$H_2C{=}CHR$		$R-\overset{O}{\overset{\|}{C}}-H$	$HC{\equiv}C-H$
−5.8	−5.3	7.3	−9.7	−2.5

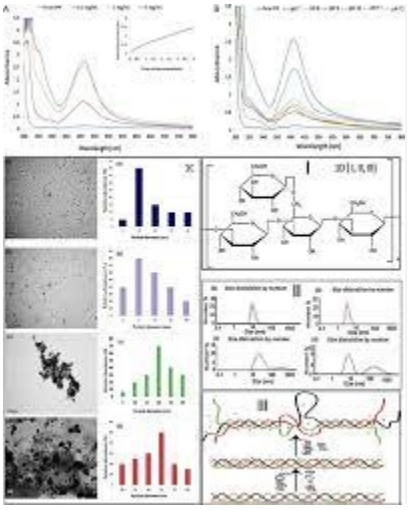
OH, NH, and SH Compounds

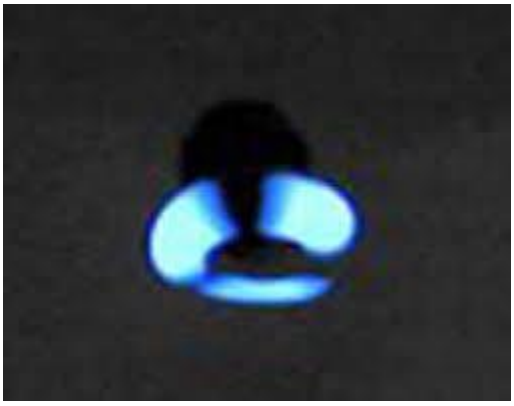
ROH	ArOH	$RC(=O)OH$	RNH_2	R_2NH	$RC(=O)NH_2$	RSH	ArSH
0.5–5	5–8	9–12	~1.5	~7.5	~7.8	~1.5	~3.0

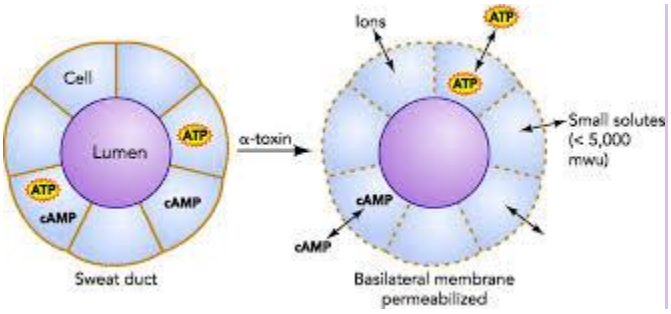
*Effective shielding constants relative to H as zero. The use of these σ values is described in Section 9-10E.





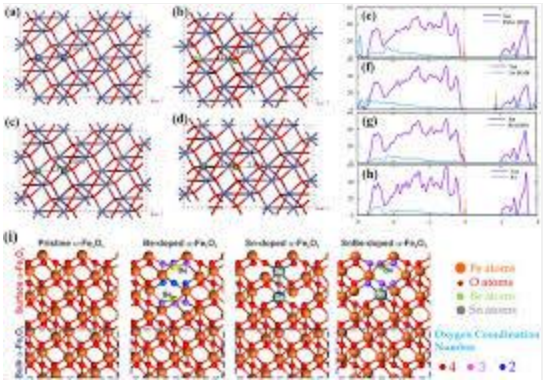


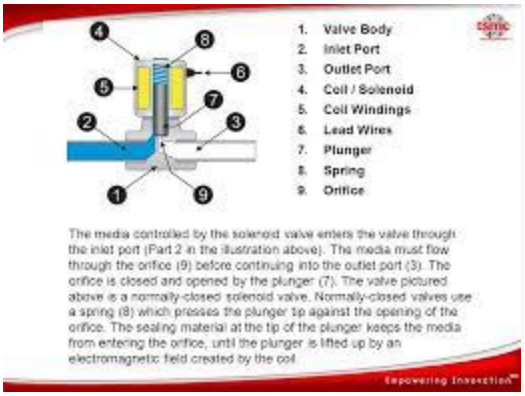




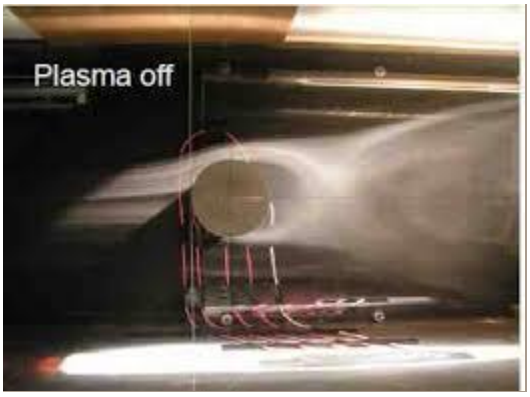




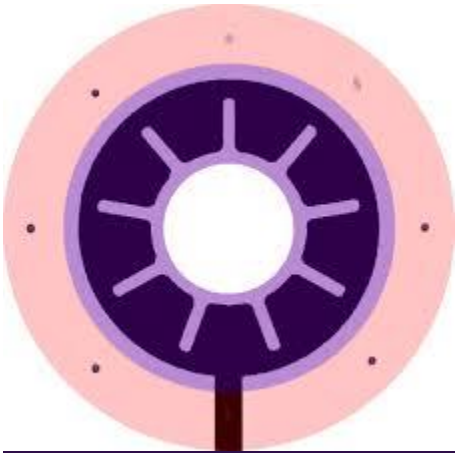



1. Valve Body
2. Inlet Port
3. Outlet Port
4. Coil / Solenoid
5. Coil Windings
6. Lead Wires
7. Plunger
8. Spring
9. Orifice
The media controlled by the solenoid valve enters the valve through the inlet port (Part 2 in the illustration above). The media must flow through the orifice (9) before continuing into the outlet port (3). The orifice is closed and opened by the plunger (7). The valve pictured above is a normally-closed solenoid valve. Normally-closed valves use a spring (8) which presses the plunger tip against the opening of the orifice. The sealing material at the tip of the plunger keeps the media from entering the orifice, until the plunger is lifted up by an electromagnetic field created by the coil.
Empowering Innovation


ONR
USN


Plasma off

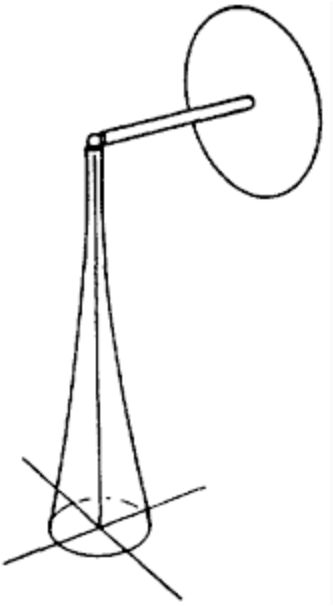




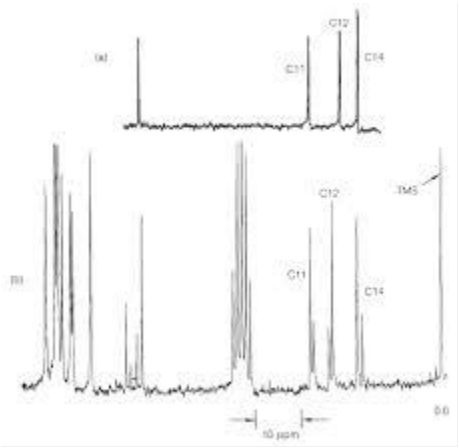

LINCOLN

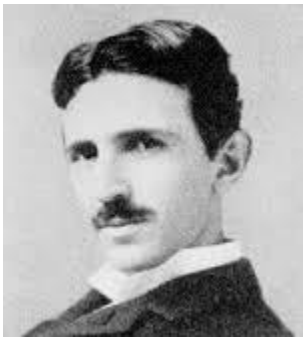


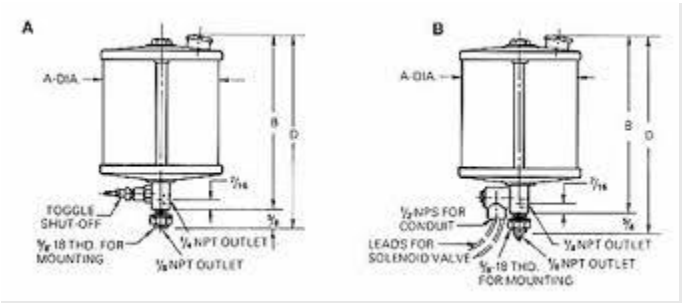








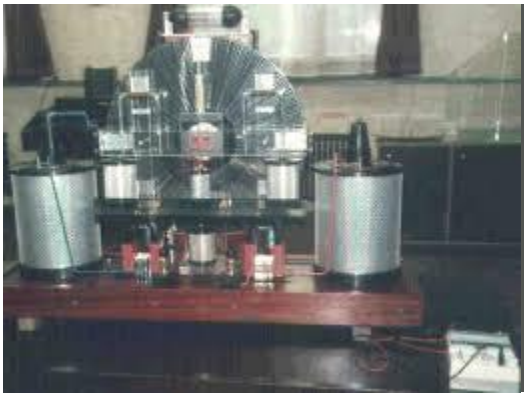




Welcome to
The One
Together we make





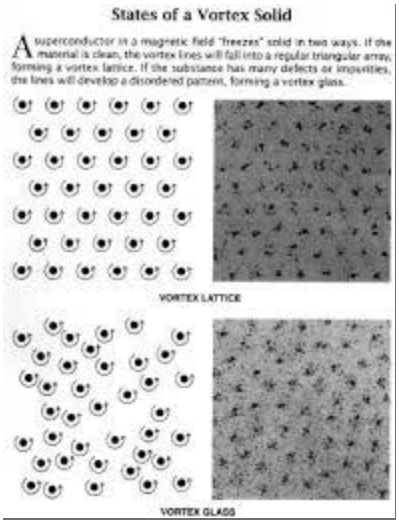


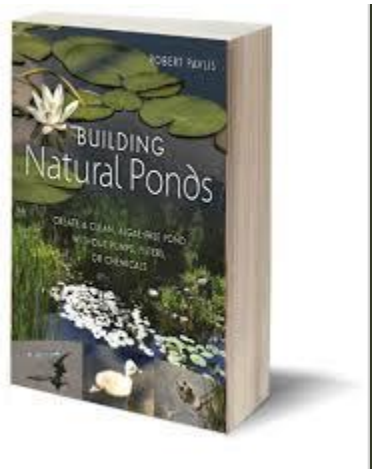
Substituted Alkanes

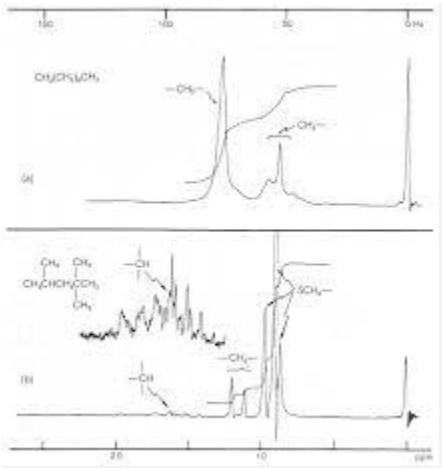
X	δ CH_2X	δ RCH_2X	δ R_2CHX	σ*
—H	0.23	0.9	1.25	0.00
—R	0.9	1.25	1.5	0.47
—F	4.26	4.4	–	–
—Cl	3.05	3.4	4.0	2.53
—Br	2.68	3.33	4.1	2.33
—I	2.16	3.2	4.2	1.82
—OH	3.47	3.6	3.6	2.56
—OR	3.3	3.4	–	2.36
—OAr	3.7	3.9	–	3.23
—O—C(=O)—R	3.8	4.1	5.0	3.13
—O—C(=O)—Ar	3.8	4.2	5.1	–
—SH	2.44	2.7	–	–
—SR	2.1	2.5	–	1.64
—NR_2	2.2	2.6	2.9	1.57
—NHC(=O)R	2.8	–	3.2	–
—NO_2	4.26	4.4	4.7	–
—CHO	2.20	2.3	2.4	1.70
—C(=O)—R	2.1	2.4	2.5	1.70
—C(=O)—Ar	2.6	3.0	3.4	1.70
—C(=O)—OH	2.07	2.3	2.6	1.55

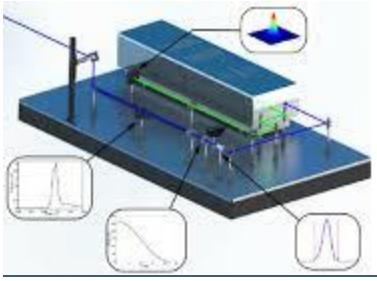
3. MAGIC ANGLE NMR

- A problem with the examination of solids that the nuclei can be frozen in space and cannot freely line up in magnetic field.
- The NMR signals generated are dependent among other things, on the orientation of the nuclei. The randomly oriented nuclei therefore give broad band spectra which are not very useful analytically.
- It can be shown that when one rotates a solid sample such that its axis of rotation 54.7° to the direction of the applied magnetic field, the broadening caused by random nuclear orientations tends to be average out, resulting in narrower spectra.

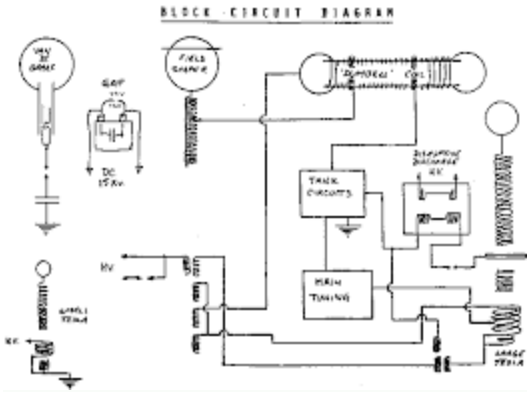




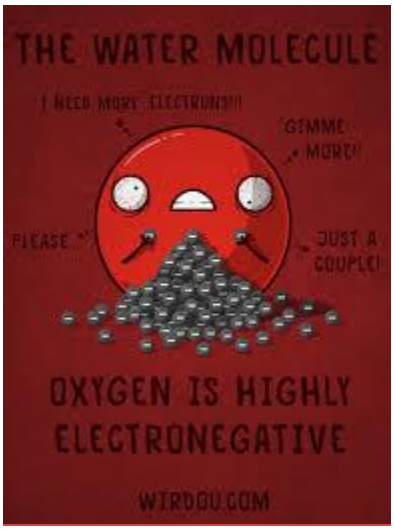












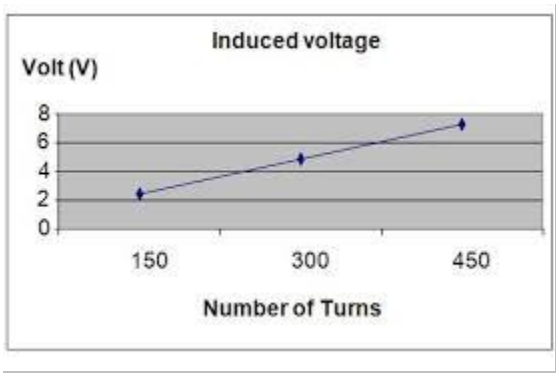


Factors Governing Chemical Shifts, (b) Electronic Effects

- As the electronegativity, or δ+ character, of an atom attached to a particular nucleus increases then the δ value increases:

H_3C-Si δ_C & δ_H 0 ppm {tetramethylsilane [TMS] $(H_3C)_4Si$, used as standard, i.e. δ 0 ppm, for ^1H, ^{13}C and ^{29}Si NMR}

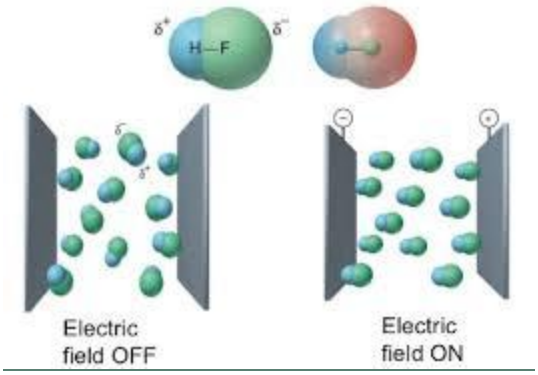
H_3C-C	δ_C 15 ppm
H_3C-C=O	δ_C 25 ppm N.B. O "far" away
H_3C-N	δ_C 30 ppm
H_3C-Br	δ_C 33 ppm
H_3C-Cl	δ_C 35 ppm
H_3C-O	δ_C 50 ppm N.B. O near - effect large!
H_3C-F	δ_C 75 ppm

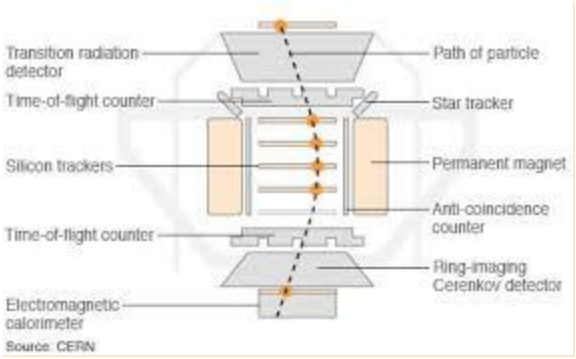


More Vocab

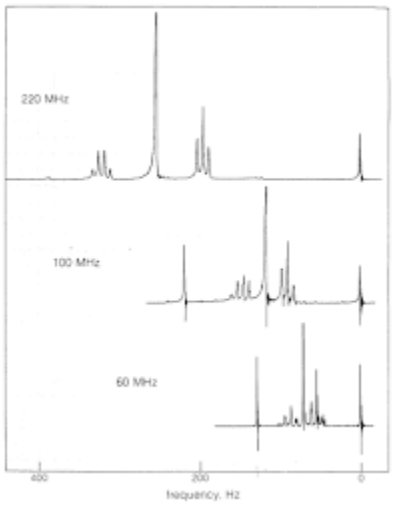
- **Electronegativity -** The attraction of an atom for the electrons of a covalent bond.
- **Reactant** - A starting material in a chemical reaction
- **Product -** An ending material in a chemical reaction

MyShared





Bonding Lab







2.12 *A Protein's Shape and Function*

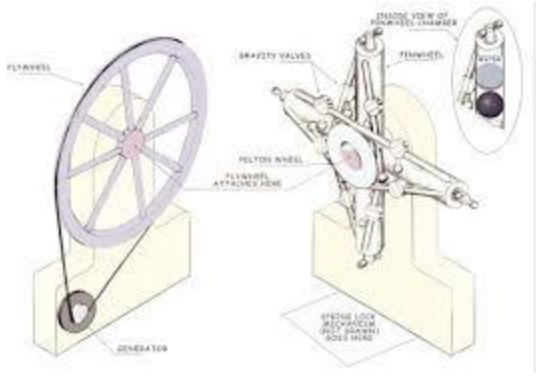
Proteins fold into complex shapes that determine their function.

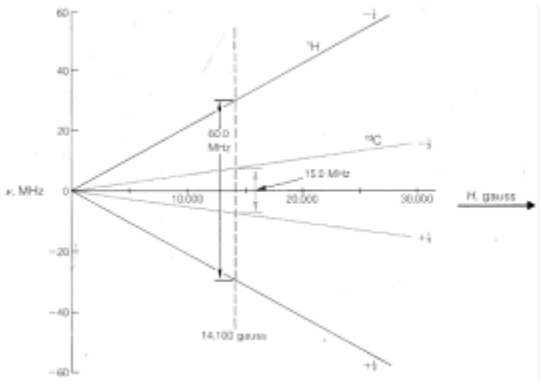
- **Secondary** structure due to hydrogen bonds
 - Helical coil
 - Sheetlike
- **Tertiary** structure
 - Continued folding
 - Twisted into functional domains
- **Quaternary** structure
 - Globular
 - Hemoglobin: four chains
 - Insulin: two chains
 - Many enzymes
 - Fibrous
 - Collagen: most common protein in humans
 - Keratin

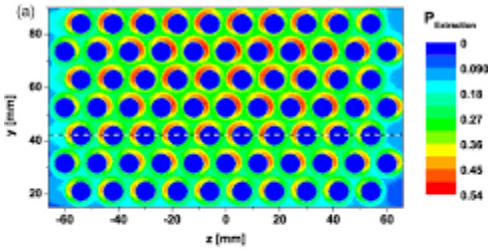


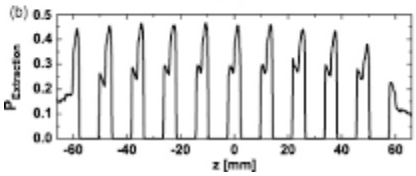


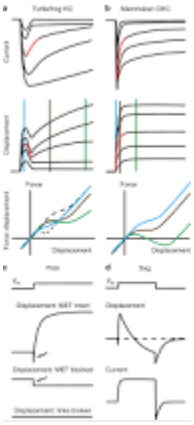


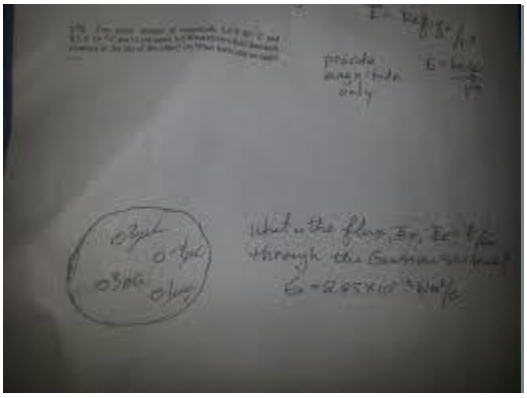








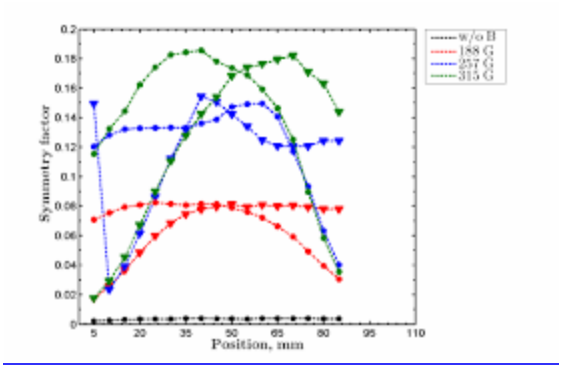




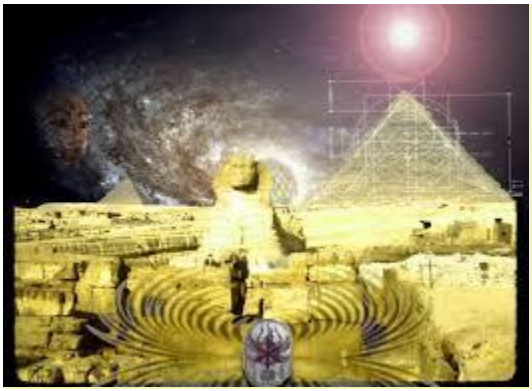


Category B3LL11	Descriptor	Ethidium bromide	DAPI[1,2]	Evans blue	Hexidium iodide	Methylene blue	Propium orange MX2R	Propidium iodide	Ethidium homodimer-2	IBB3
Electronegativity	TD0Ke	41.75	45.01	50.62	42.16	45.09	51.98	41.20	41.70	42.00
	ATSC5e	−0.13	1.50	−211.14	2.02	1.91	−37.62	3.71	15.46	1.01
	GATS5e	0.97	0.77	1.25	0.06	0.77	1.07	0.57	0.56	0.04
Ionization potential	TD0I	1,254.85	1,362.00	1,231.16	1,198.58	1,312.73	1,168.57	1,171.92	1,170.16	1,420.24
	TD1O	1,616.85	1,733.57	1,480.62	1,518.93	1,773.06	1,451.99	1,402.30	1,418.41	1,236.16
Polarizability	TD0p	8.32	8.26	8.61	8.51	9.33	10.12	7.71	7.06	7.67
Size and geometry	TD0v	1.82	1.87	2.29	1.98	2.00	2.49	1.71	1.76	1.71
	TD0s	1,080.21	1,100.05	1,300.31	1,114.43	1,121.27	1,460.71	1,005.29	1,039.36	1,018.14
	TD0Su	4.91	4.90	4.99	4.94	4.87	5.04	4.66	4.74	4.66
Topological flexibility	RotBFrac	0.19	0.22	0.30	0.29	0.23	0.27	0.00	0.00	0.00
Valence	VP-5	2.15	1.04	2.57	2.72	1.82	1.95	3.15	3.62	3.08

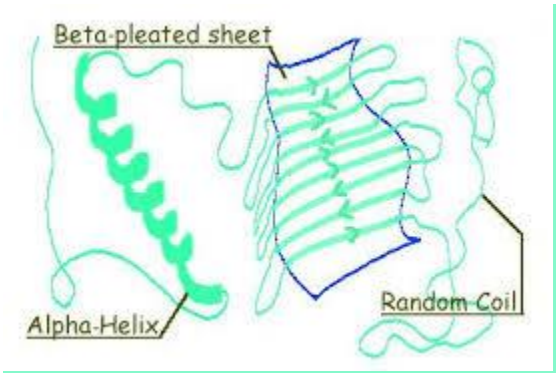
↑ *All values of permeable molecules are higher than values of impermeant ones.*
↓ *All values of permeable molecules are lower than values of impermeant ones.*

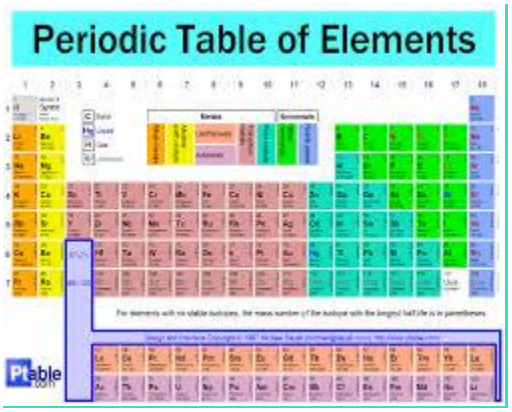














Transformation of the heat of the reactive stream

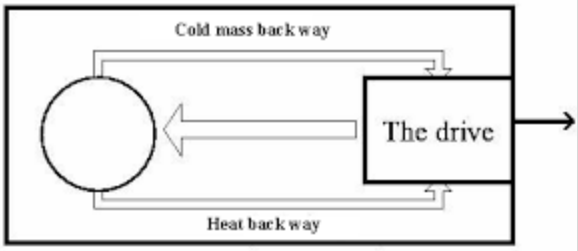
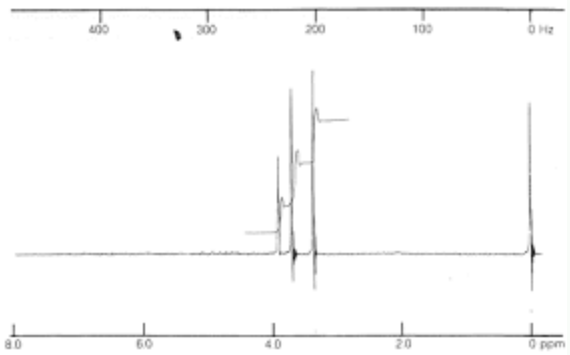
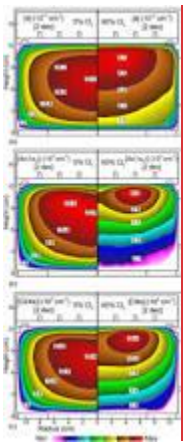


Fig. 1.2

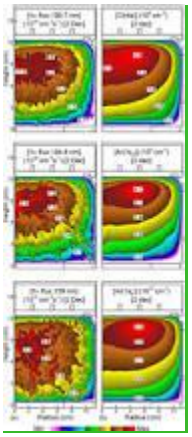


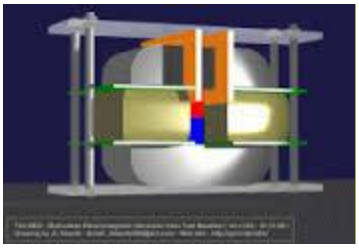

400
300
200
100
0 Hz
8.0
6.0
4.0
2.0
0 ppm

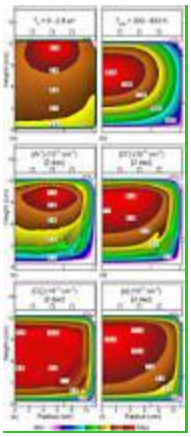


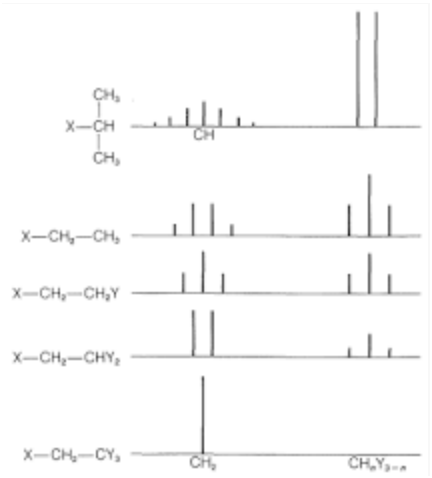


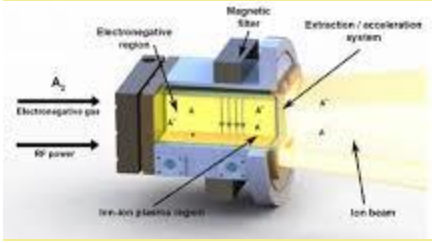


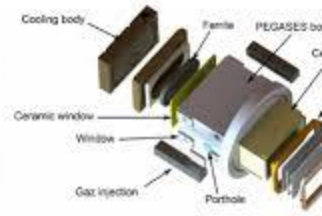


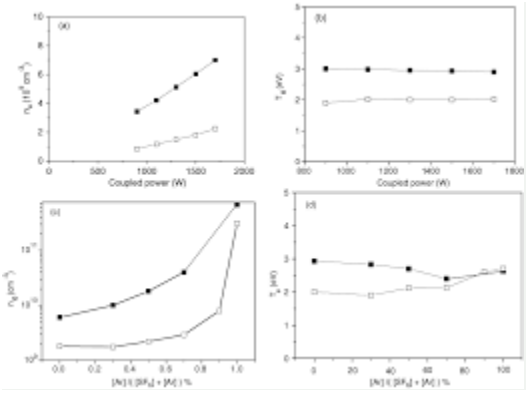


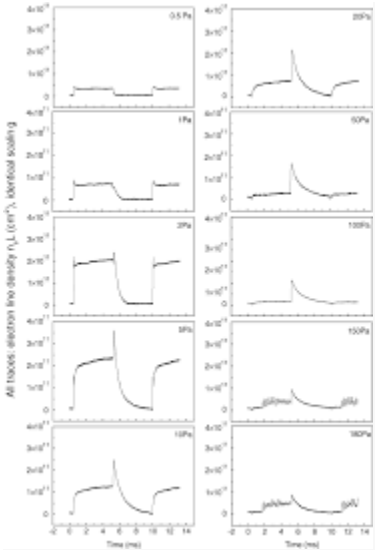


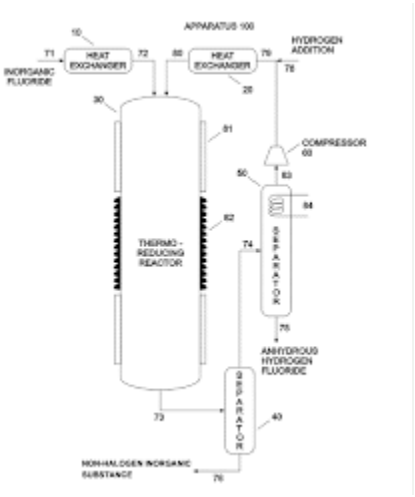


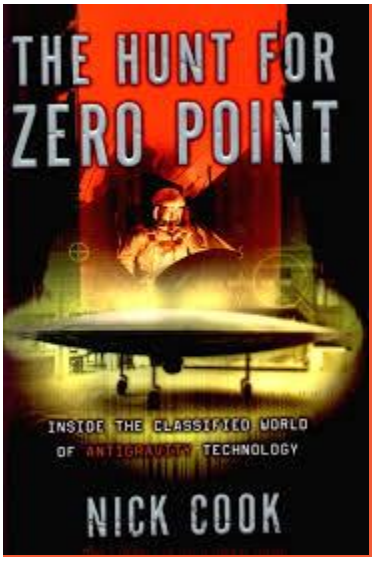






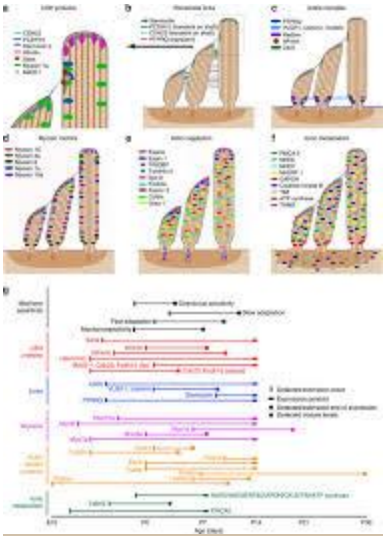


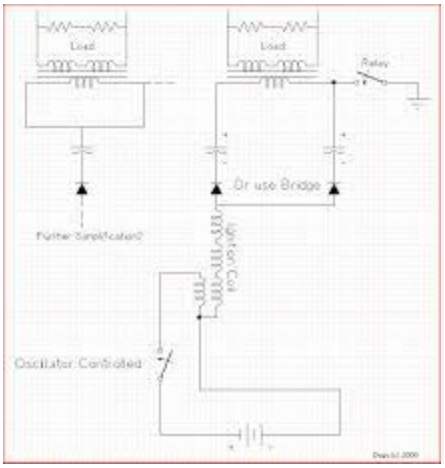




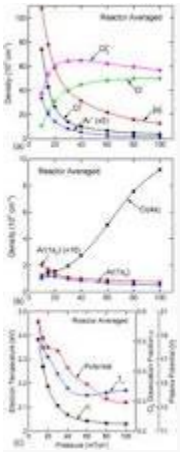
B. TRANSVERSE RELAXATION

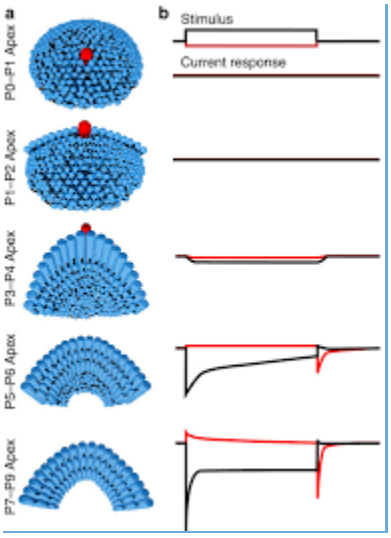
- An excited nucleus may transfer its energy to an unexcited nucleus of a similar molecules that is nearby.
- In this process, the nearby unexcited nucleus becomes excited a the previously excited nucleus become unexcited.
- There is no net change in energy of the system, but the length of the time that one nucleus stays excited is shortened. This process, which is called transverse relaxation T_2

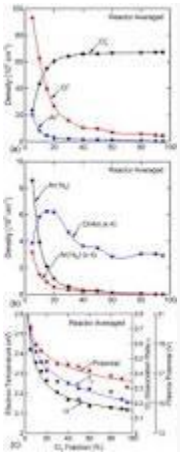












ОПЫТЪ СИСТЕМЫ ЭЛЕМЕНТОВЪ.

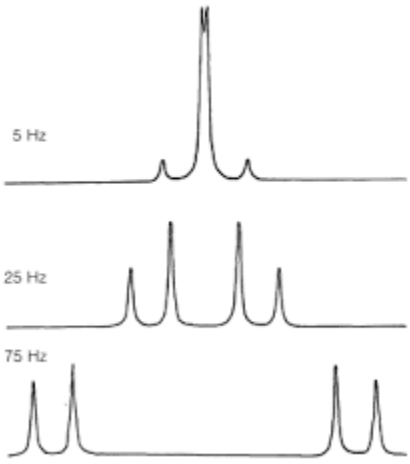
ОСНОВАННОЙ НА ИХЪ АТОМНОМЪ ВѢСѢ И ХИМИЧЕСКОМЪ СХОДСТВѢ.

			Ti = 50	Zr = 90	? = 180.
			V = 51	Nb = 94	Ta = 182.
			Cr = 52	Mo = 96	W = 186.
			Mn = 55	Rh = 104,4	Pt = 197,4.
			Fe = 56	Ru = 104,4	Ir = 198.
			Ni = Co = 59	Pl = 106,6	O = 199.
H = 1			Cu = 63,4	Ag = 108	Hg = 200.
	Be = 9,4	Mg = 24	Zn = 65,2	Cd = 112	
	B = 11	Al = 27,4	? = 68	Ur = 116	Au = 197?
	C = 12	Si = 28	? = 70	Sn = 118	
	N = 14	P = 31	As = 75	Sb = 122	Bi = 210?
	O = 16	S = 32	Se = 79,4	Te = 128?	
	F = 19	Cl = 35,5	Br = 80	I = 127	
Li = 7	Na = 23	K = 39	Rb = 85,4	Cs = 133	Tl = 204.
		Ca = 40	Sr = 87,6	Ba = 137	Pb = 207.
		? = 45	Ce = 92		
		?Er = 56	La = 94		
		?Yt = 60	Di = 95		
		?In = 75,6	Th = 118?		

Д. Менделѣевъ

http://highered.mcgraw-hill.com/sites/0072943696/student_view0/chapter2/animation__protein_denaturation.html





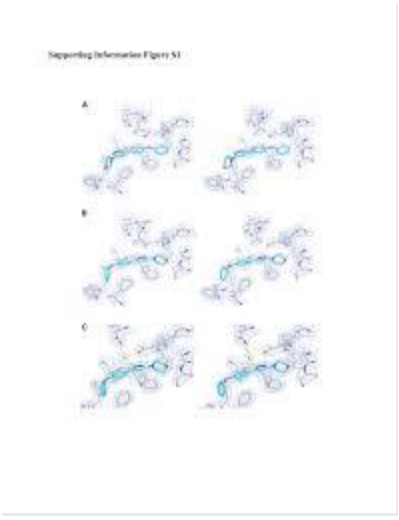
ATOM
Acids & Bases

↑ electronegativity
↑ acidity
↓ basicity

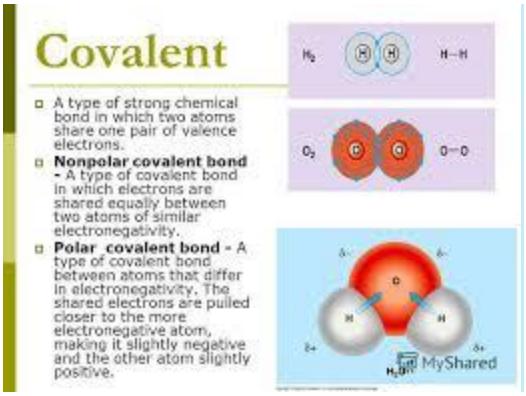
ex.
CH_3-OH stronger acid
CH_3-NH_2 weaker



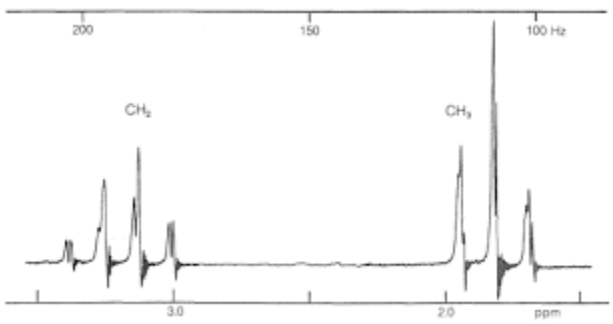


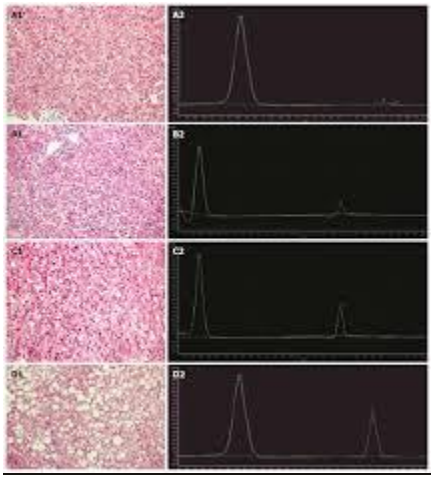




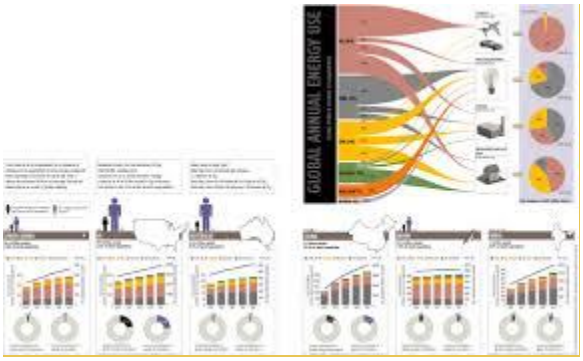

Covalent
A type of strong chemical bond in which two atoms share one pair of valence electrons.
Nonpolar covalent bond - A type of covalent bond in which electrons are shared equally between two atoms of similar electronegativity.
Polar covalent bond - A type of covalent bond between atoms that differ in electronegativity. The shared electrons are pulled closer to the more electronegative atom, making it slightly negative and the other atom slightly positive.
H—H
O—O
MyShared

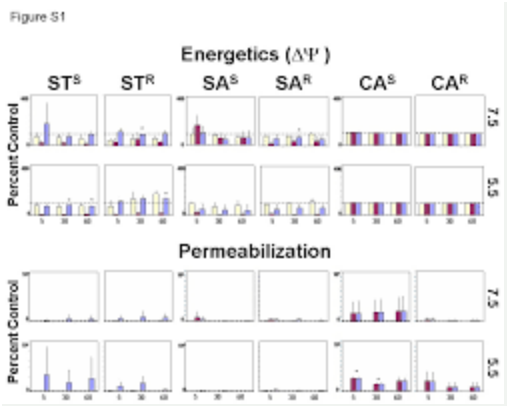



200
150
100 Hz
CH2
CH3
3.0
2.0
ppm

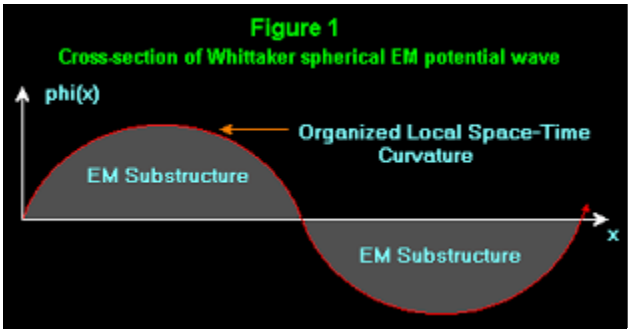




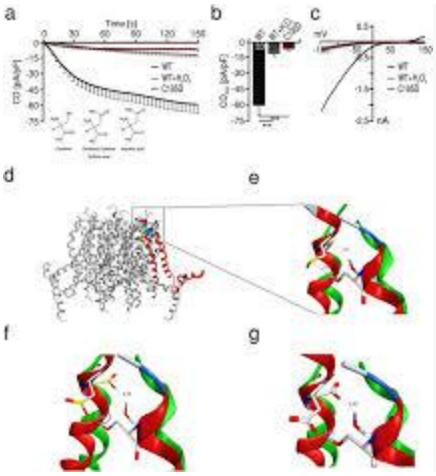

GLOBAL ANNUAL ENERGY USE

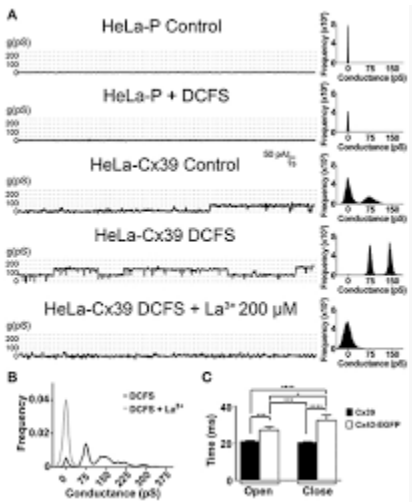

Figure S1
Energetics (ΔΨ)
STS
STR
SAS
SAR
CAS
CAR
Percent Control
7.5
5.5
Permeabilization
Percent Control
7.5
5.5

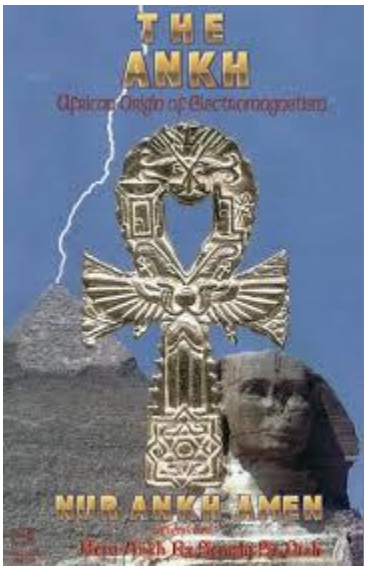



Figure 1
Cross-section of Whittaker spherical EM potential wave
phi(x)
Organized Local Space-Time Curvature
EM Substructure
EM Substructure
x









Supplementary Information

Figure S1. Concordance analysis of SIFT, PolyPhen 2.0 and 1 Mutant 3.0. By combining prediction of all three tools 188 SNPs were predicted to be significant.

Figure S2. Graphical representation of best docking results of Thio-Telebastin complex using Haddock. Colour scheme Thio (Red) and Telebastin (Blue).

Figure S3. Comparative potential energy graph of 50ns simulation of native and mutant complexes (Run 1). Colour scheme WT (Red) and mutant V168I (Blue).

Figure S4. Block based RMSDs of 2 WT runs. Color Scheme Run 1 (Green) and Run 2 (Maroon)

Figure S5. Comparative backbone RMSD graph of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V168I (Blue).

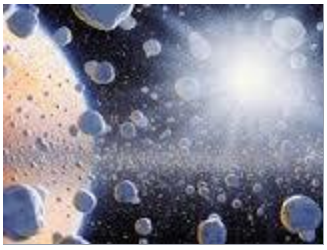
Figure S6. Comparative c-alpha RMSF graph of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V168I (Blue).

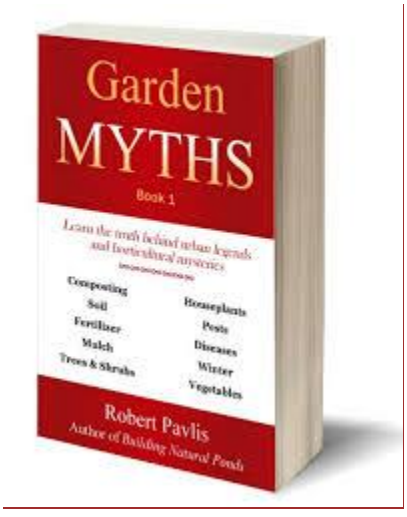
Figure S7. Comparative intermolecular hydrogen bonds of 50ns simulation of native and mutant complexes (Run 2). Colour scheme WT (Red) and mutant V168I (Blue).

Figure S8. Solvent accessible graph of 50ns simulation of native and mutant complexes (Run 1). Colour scheme WT (Red) and mutant V168M (Blue)

Table S1. Characterization of potential pathogenic sequence nsSNP/variant in gene encoding human ITSN.

Table S2. Interacting residues of Thio-telebastin complex obtained from PIC server.

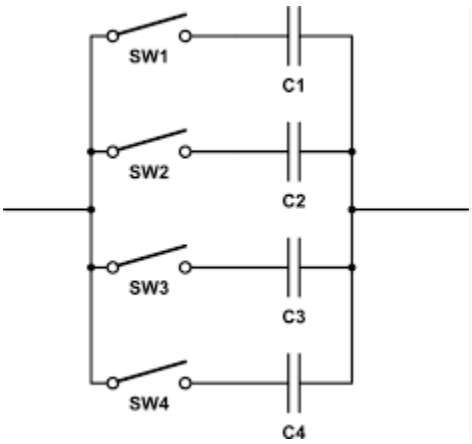




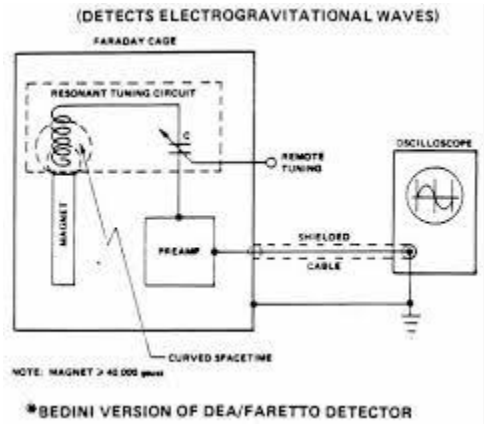




ALTERNATING MALEIC ANHYDRIDE COPOLYMERS

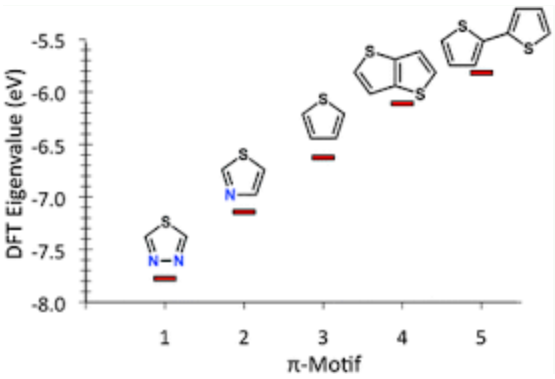


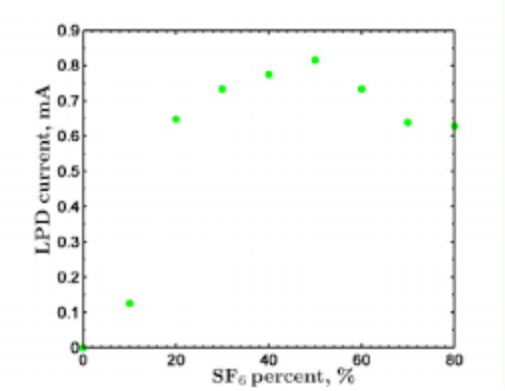


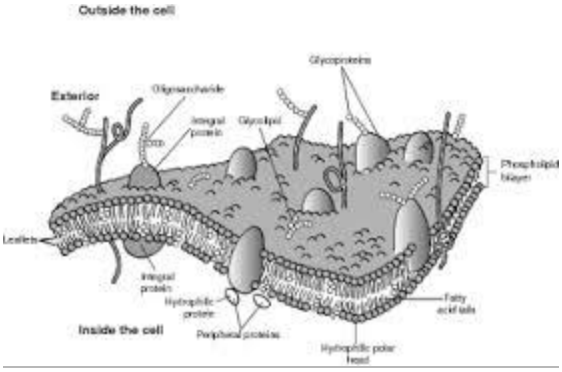


*BEDINI VERSION OF DEA/FARETTO DETECTOR

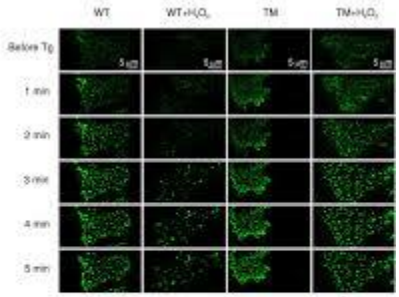




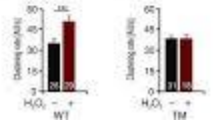

LPD current, mA
SF6 percent, %


Outside the cell
Exterior
Glycoproteins
Oligosaccharide
Integral protein
Glycolipid
Phospholipid bilayer
Leaflets
Integral protein
Hydrophilic protein
Fatty acid tails
Inside the cell
Peripheral proteins
Hydrophilic polar head

a


WT
WT+H2O2
TM
TM+H2O2
Before Tg
1 min
2 min
3 min
4 min
5 min

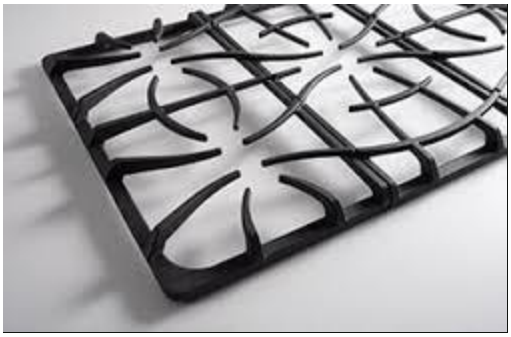
b c

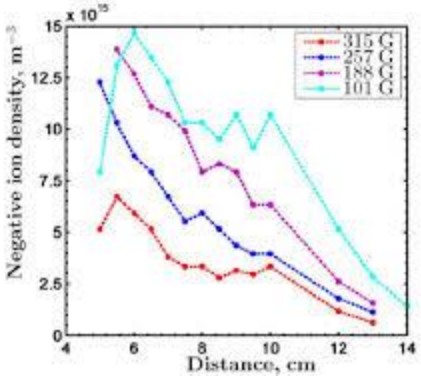


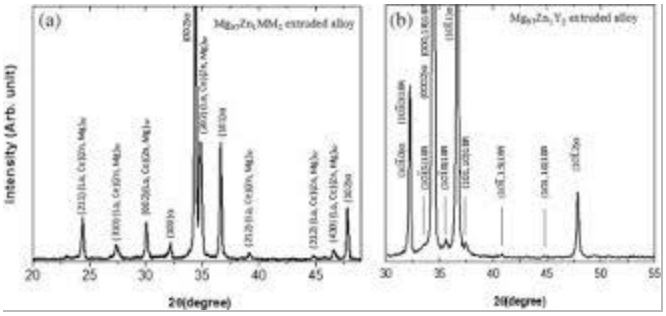

104

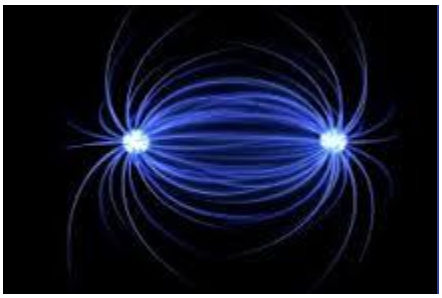


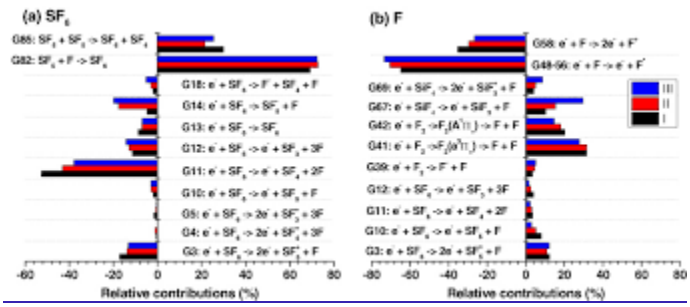

lkaline earth metals is
(1) covalent
(2) ionic
(3) interstitial
(4) polymeric
Metals have a tend

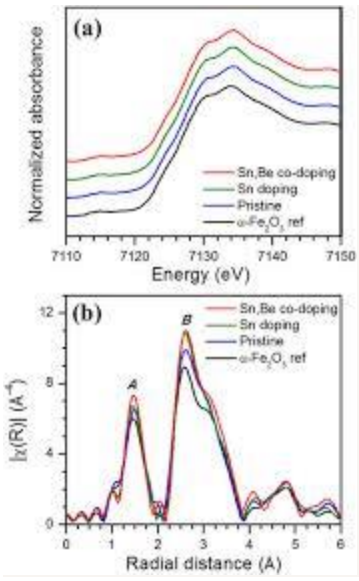



x 10^15
315 G
257 G
188 G
101 G
Negative ion density, m^-3
Distance, cm

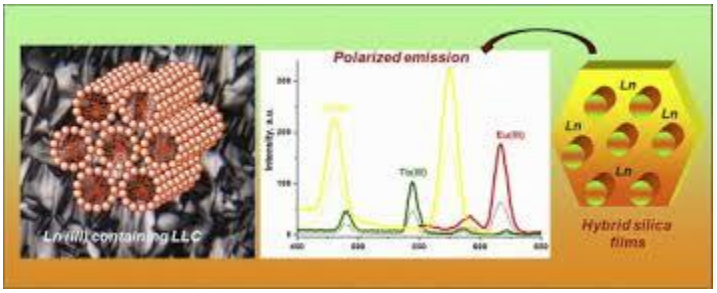

(a)
(b)
Intensity (Arb. unit)
2θ(degree)
2θ(degree)

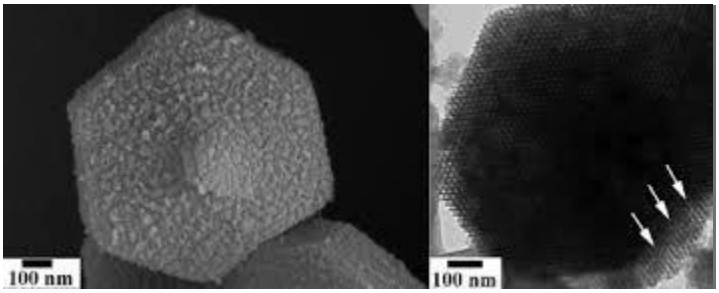


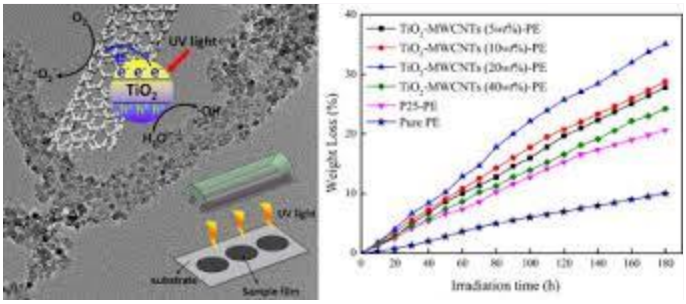

(a) SF6
(b) F
Relative contributions (%)
Relative contributions (%)

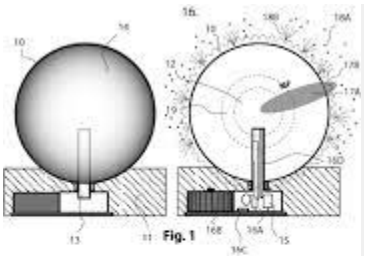

(a)
Normalized absorbance
Energy (eV)
Sn,Be co-doping
Sn doping
Pristine
α-Fe2O3 ref
(b)
|χ(R)| (A⁻⁴)
Radial distance (A)
A
B

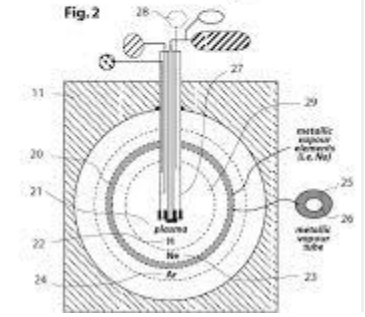


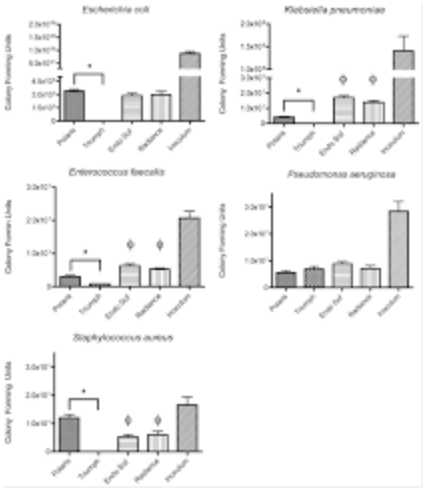

Polarized emission
Ln
Hybrid silica films


100 nm
100 nm


UV light
TiO2
OH
substrate
Sample film
Weight Loss (%)
Irradiation time (h)
TiO2-MWCNTs (5wt%)-PE
TiO2-MWCNTs (10wt%)-PE
TiO2-MWCNTs (20wt%)-PE
TiO2-MWCNTs (40wt%)-PE
P25-PE
Pure PE


Fig. 1


plasma
H
Ne
Ar
Fig. 2


Escherichia coli
Klebsiella pneumoniae
Enterococcus faecalis
Pseudomonas aeruginosa
Staphylococcus aureus

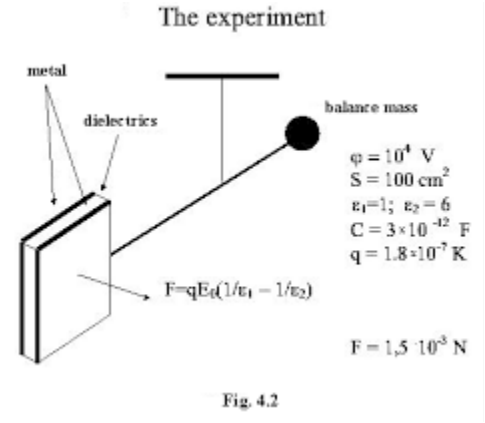
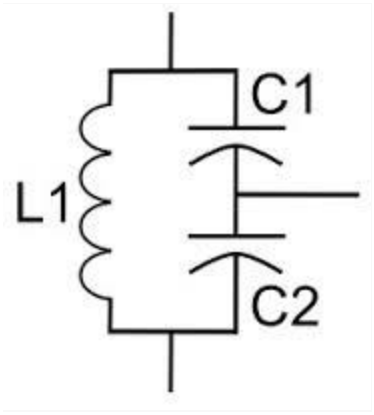
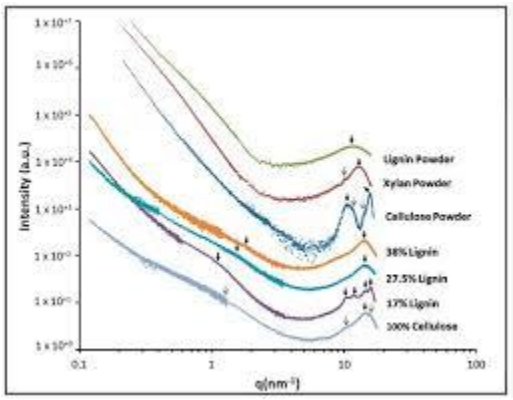

The experiment
metal
dielectrics
balance mass
φ = 10⁴ V
S = 100 cm²
ε₁=1; ε₂ = 6
C = 3×10⁻¹² F
q = 1.8×10⁻⁷ K
F=qE₀(1/ε₁ − 1/ε₂)
F = 1,5 ·10⁻³ N

Fig. 4.2

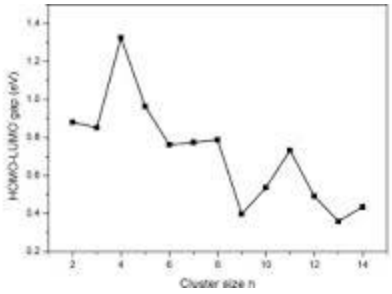


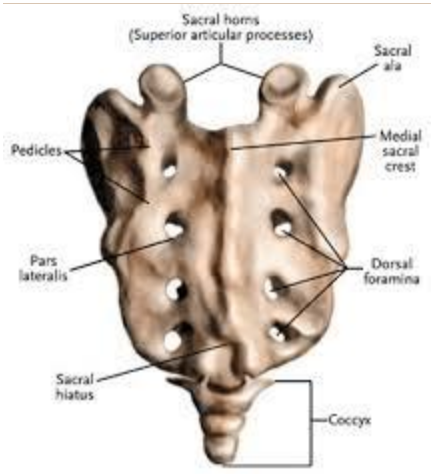



C1
L1
C2


Intensity (a.u.)
q(nm⁻¹)
Lignin Powder
Xylan Powder
Cellulose Powder
38% Lignin
27.5% Lignin
17% Lignin
100% Cellulose




HOMO-LUMO gap (eV)
Cluster size n





Metal-Halide Lamps

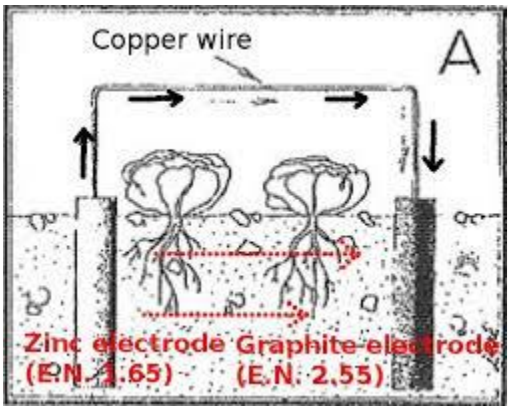
Abstract

Introduction

Historical Overview

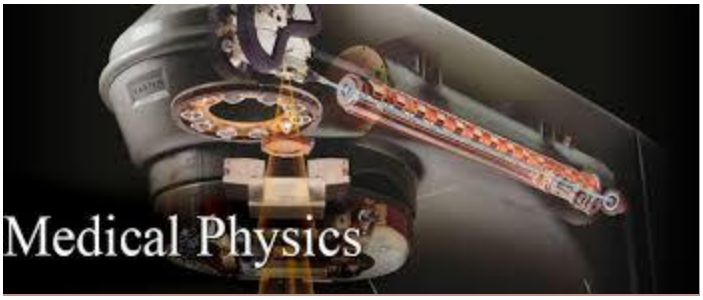
Basic Working Principle (Difference to Hg Lamps)

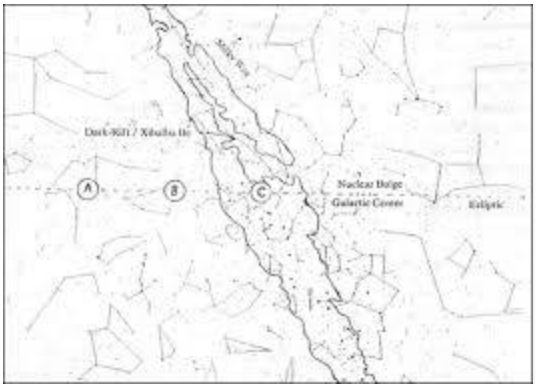




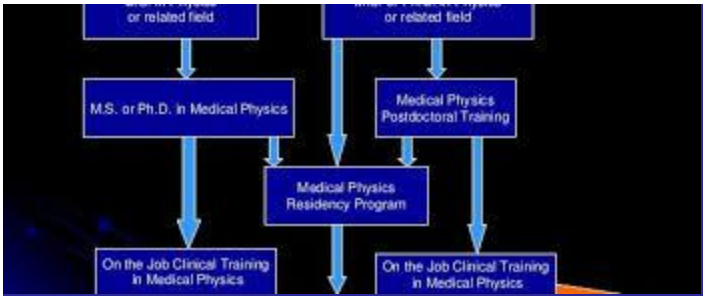


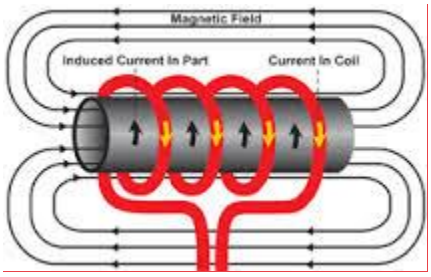


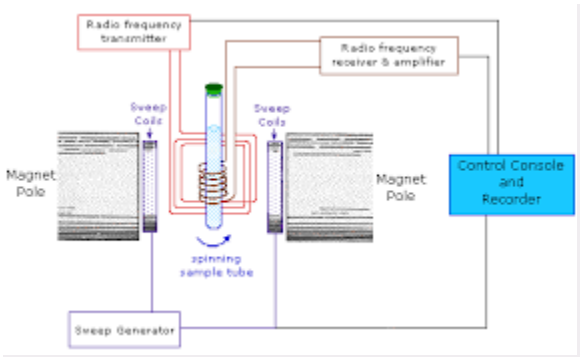


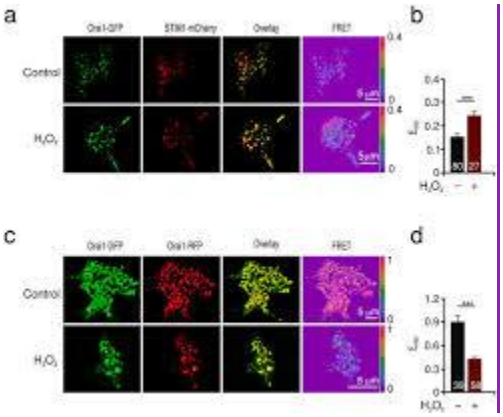


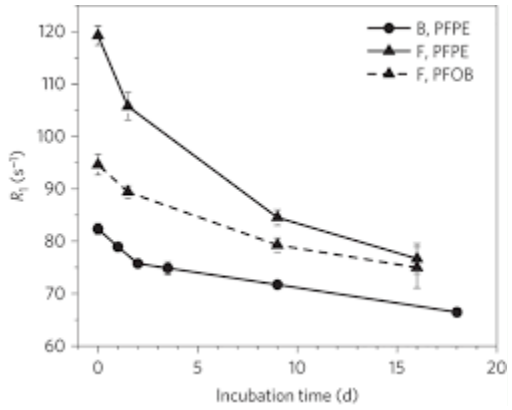


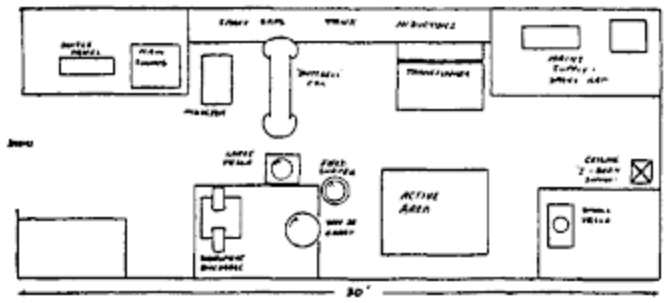

or related field
or related field
M.S. or Ph.D. in Medical Physics
Medical Physics Postdoctoral Training
Medical Physics Residency Program
On the Job Clinical Training in Medical Physics
On the Job Clinical Training in Medical Physics

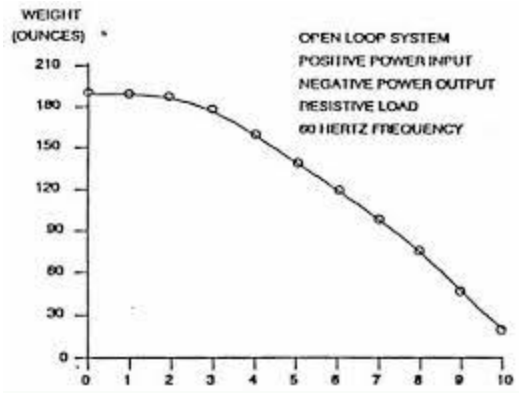

Magnetic Field
Induced Current in Part
Current in Coil

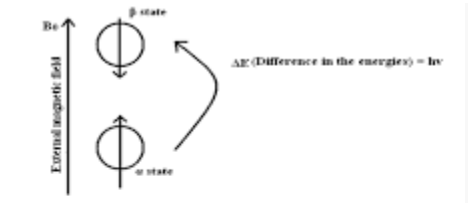

Radio frequency transmitter
Radio frequency receiver & amplifier
Sweep Coils
Sweep Coils
Magnet Pole
Magnet Pole
Control Console and Recorder
spinning sample tube
Sweep Generator

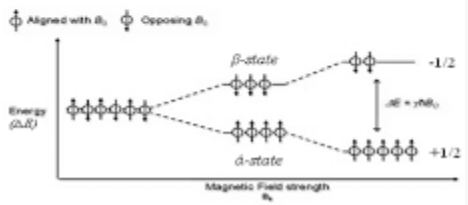

a
b
c
d
Control
H_2O_2

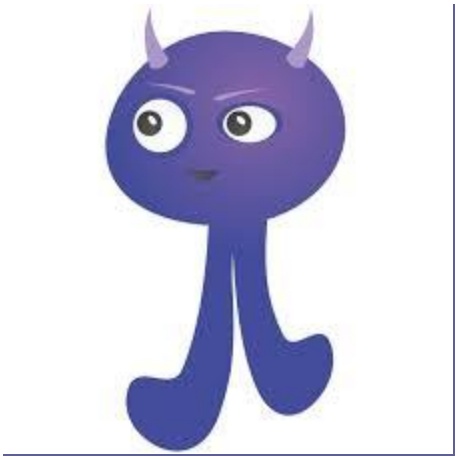

B, PFPE
F, PFPE
F, PFOB
Incubation time (d)

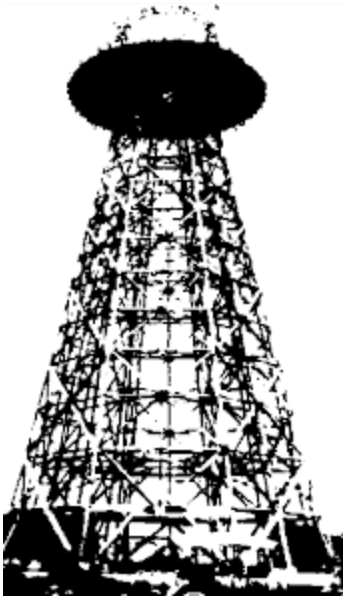


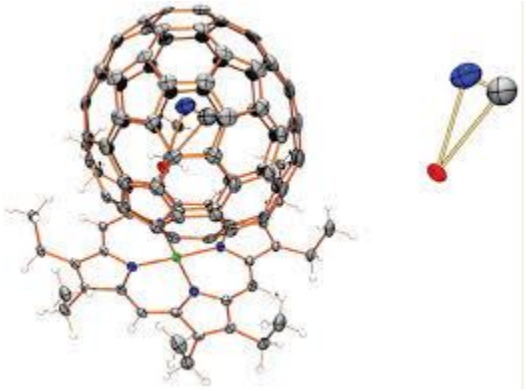

WEIGHT (OUNCES)
OPEN LOOP SYSTEM
POSITIVE POWER INPUT
NEGATIVE POWER OUTPUT
RESISTIVE LOAD
60 HERTZ FREQUENCY


β state
α state
External magnetic field
ΔE (Difference in the energies) = hν

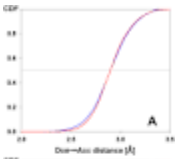

Aligned with B_0
Opposing B_0
β-state
α-state
-1/2
+1/2
Energy (ΔE)
Magnetic Field strength

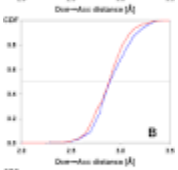


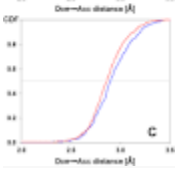


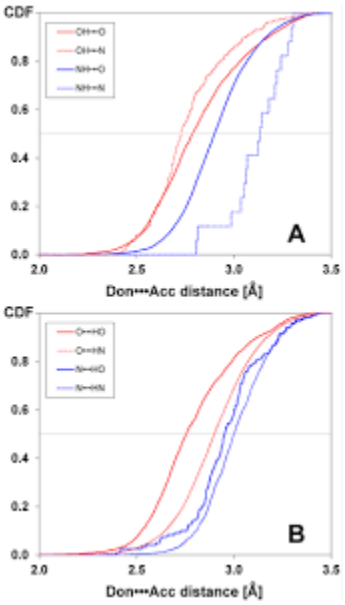



NIKOLA TESLA


CDF
A
Don···Acc distance [Å]

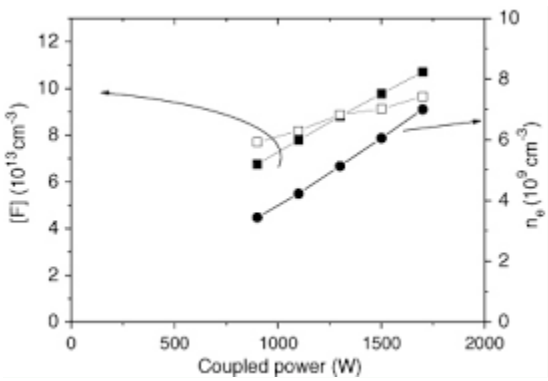

CDF
B
Don···Acc distance [Å]

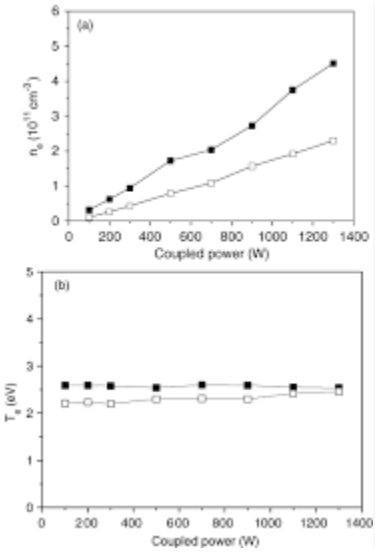

CDF
C
Don···Acc distance [Å]


CDF
C-H···O
C-H···N
N-H···O
N-H···N
0.0
0.2
0.4
0.6
0.8
2.0
2.5
3.0
3.5
A
Don···Acc distance [Å]
CDF
B
Don···Acc distance [Å]


Periodic Table of the Elements



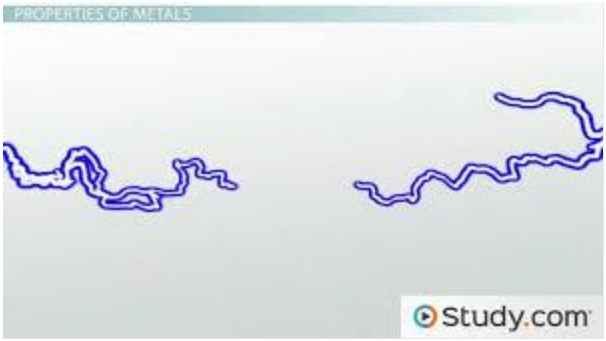

[F] (10^{13} cm^{-3})
n_e (10^9 cm^{-3})
Coupled power (W)

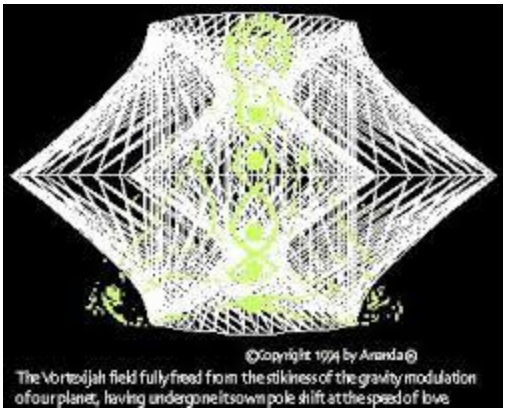

(a)
n_e (10^{11} cm^{-3})
Coupled power (W)
(b)
T_e (eV)
Coupled power (W)


COVALENT BONDS
Study.com

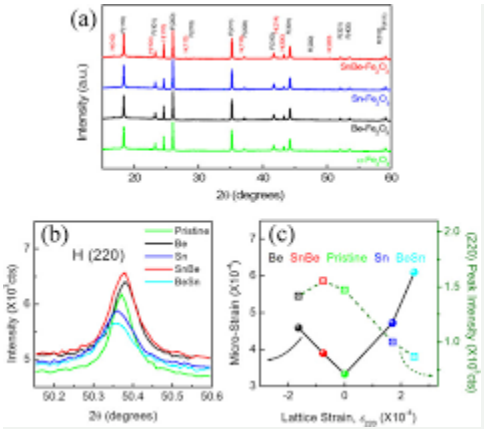


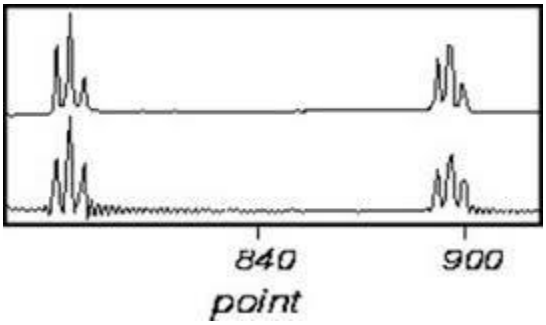



PROPERTIES OF METALS
Study.com

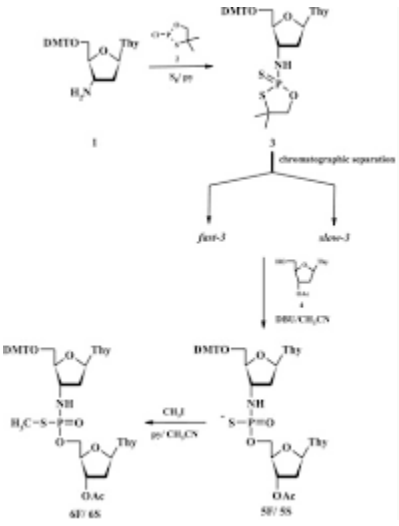

©Copyright 1994 by Ananda©
The Vortexijah field fully freed from the stikiness of the gravity modulation of our planet, having undergone its own pole shift at the speed of love

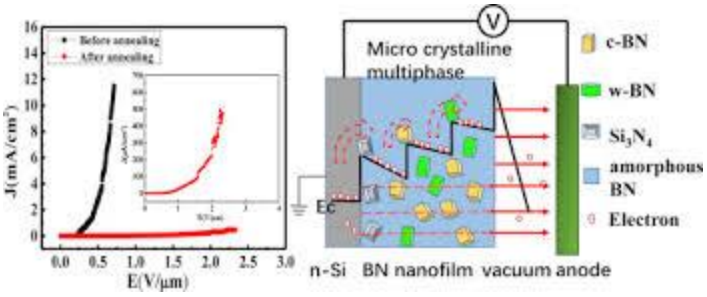

he Caduceus coil on Tesla primary

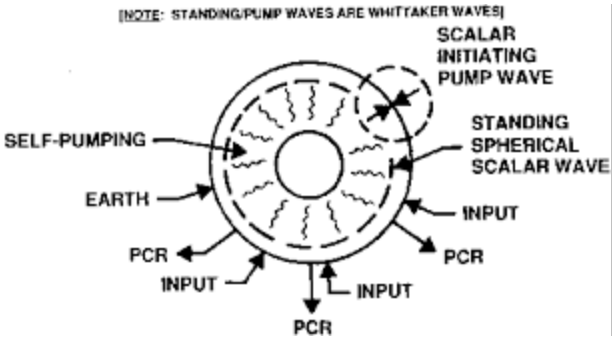

(a)
Intensity (a.u.)
2θ (degrees)
(b)
H (220)
Intensity (X10³cts)
2θ (degrees)
(c)
Micro-Strain (X10⁻⁴)
Lattice Strain, ε220 (X10⁻⁴)
(220) Peak Intensity (X10³cts)

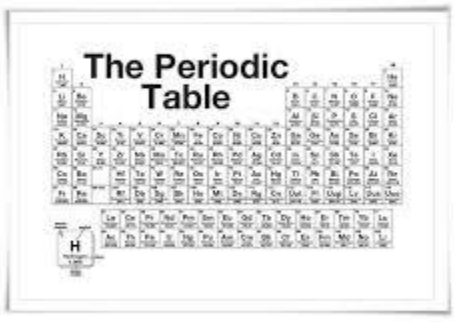

840
900
point

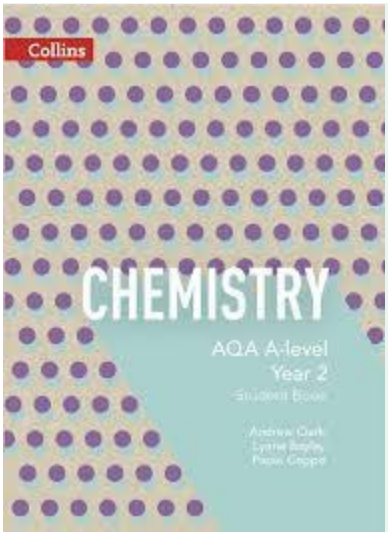


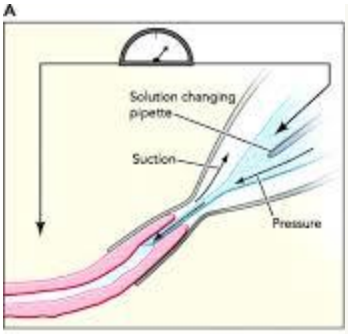

DMTO
Thy
chromatographic separation
fast-3
slow-3

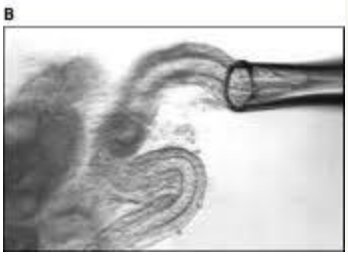

Before annealing
After annealing
J(mA/cm²)
E(V/μm)
V
Micro crystalline multiphase
c-BN
w-BN
Si3N4
amorphous BN
Electron
Ec
n-Si
BN nanofilm
vacuum anode


[NOTE: STANDING/PUMP WAVES ARE WHITTAKER WAVES]
SCALAR INITIATING PUMP WAVE
STANDING SPHERICAL SCALAR WAVE
SELF-PUMPING
EARTH
INPUT
PCR
INPUT
PCR
INPUT
PCR


The Periodic Table

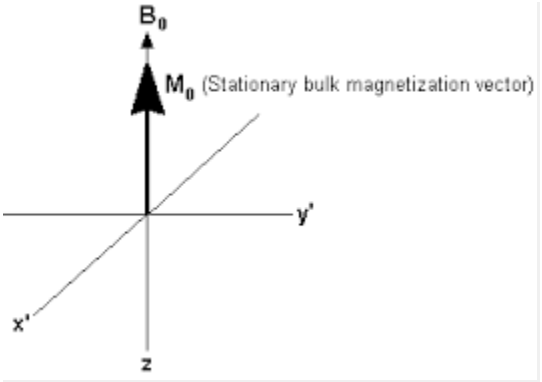

Collins
CHEMISTRY
AQA A-level
Year 2
Student Book
Andrew Clark
Lynne Bayley
Paula Gappa

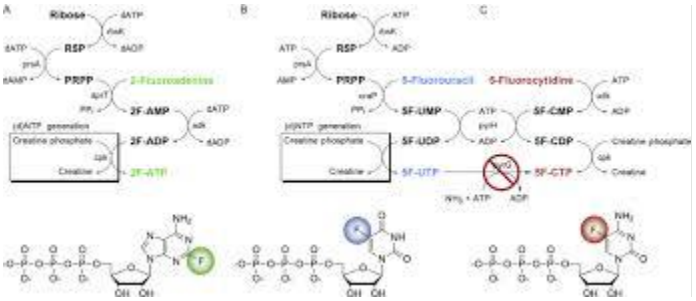

A
Solution changing pipette
Suction
Pressure


B


ALKEMIC GENERATOR
THE WISHFUL ILLUSION

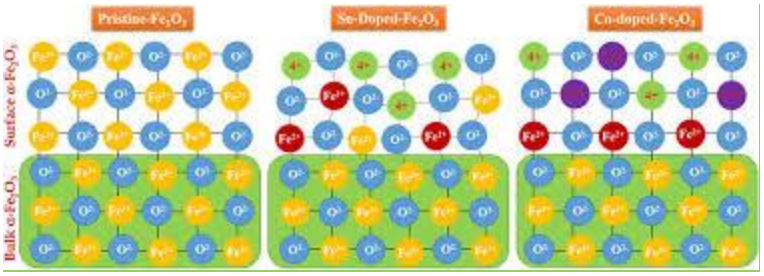


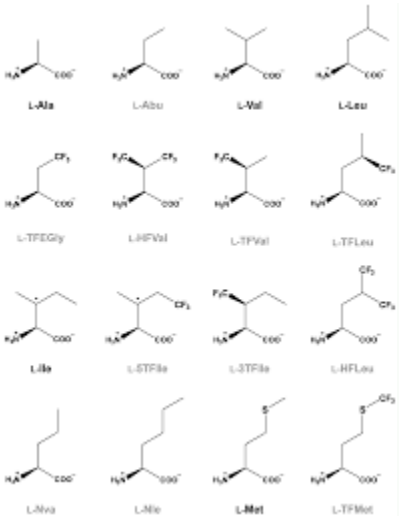

B0
M0 (Stationary bulk magnetization vector)
y'
x'
z

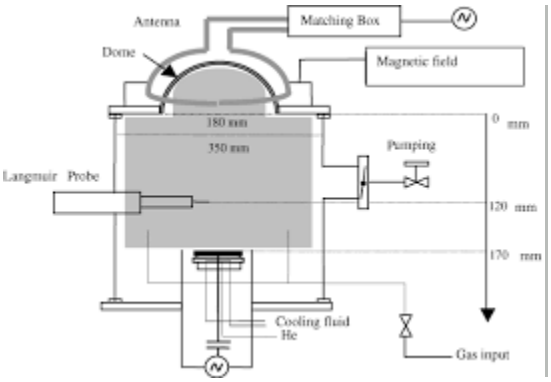

A
Ribose
ATP
RSP
PRPP
5-Fluorouracil
5-Fluorocytidine
SF-AMP
SF-ADP
SF-ATP
SF-UMP
SF-UDP
SF-UTP
SF-CMP
SF-CDP
SF-CTP
Creatine phosphate
Creatine


EUROPEAN ORTHODONTIC SOCIETY
EOS
founded in 1907

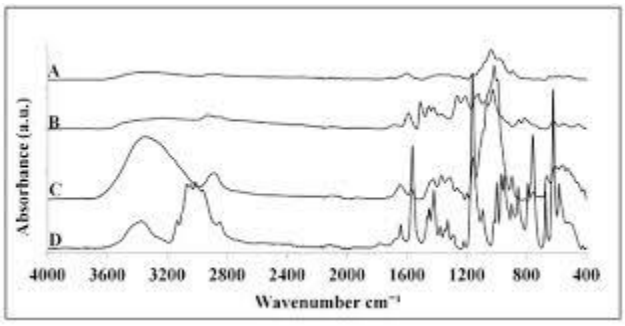


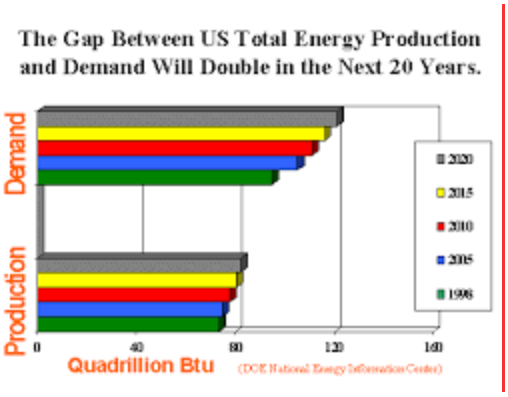

Pristine-Fe_2O_3
Sn-Doped-Fe_2O_3
Co-doped-Fe_2O_3
Surface α-Fe_2O_3
Bulk α-Fe_2O_3

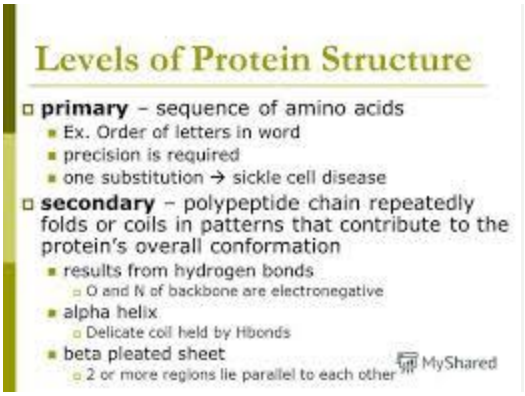

L-Ala
L-Abu
L-Val
L-Leu
L-TFEGly
L-HFVal
L-TFVal
L-TFLeu
L-Ile
L-5TFIle
L-3TFIle
L-HFLeu
L-Nva
L-Nle
L-Met
L-TFMet


Antenna
Matching Box
Dome
Magnetic field
180 mm
350 mm
Pumping
Langmuir Probe
0 mm
120 mm
170 mm
Cooling fluid
He
Gas input

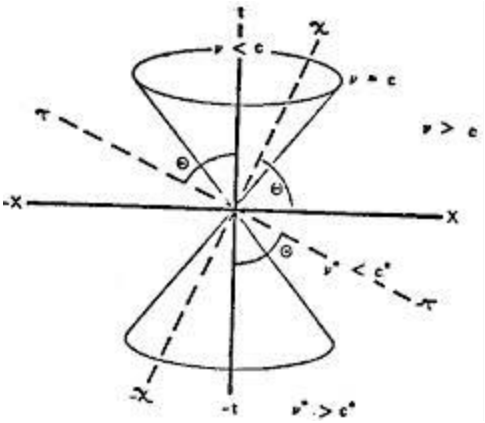


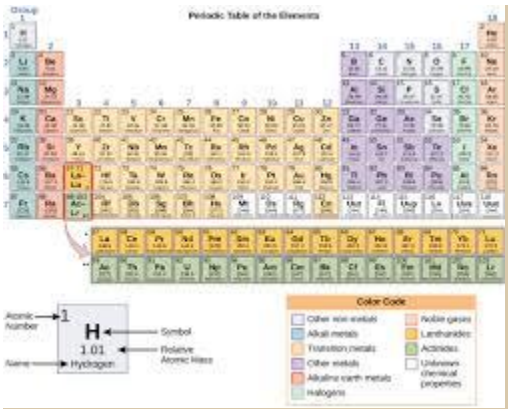

A
B
C
D
Absorbance (a.u.)
4000 3600 3200 2800 2400 2000 1600 1200 800 400
Wavenumber cm^{-1}

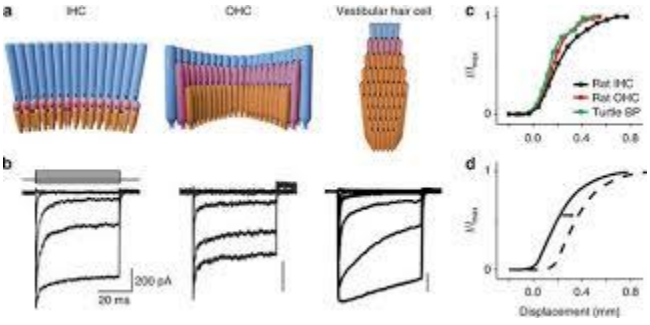

The Gap Between US Total Energy Production and Demand Will Double in the Next 20 Years.
Demand
Production
2020
2015
2010
2005
1998
0
40
80
120
160
Quadrillion Btu
(DOE National Energy Information Center)

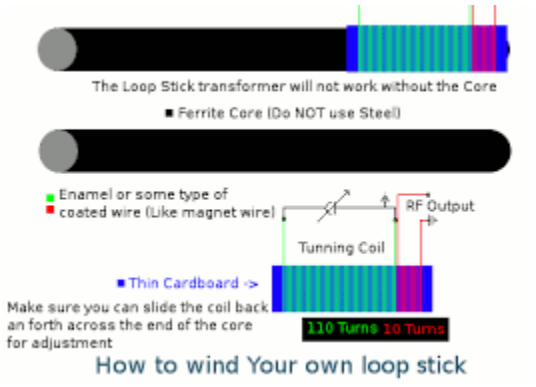

Levels of Protein Structure
primary – sequence of amino acids
Ex. Order of letters in word
precision is required
one substitution → sickle cell disease
secondary – polypeptide chain repeatedly folds or coils in patterns that contribute to the protein's overall conformation
results from hydrogen bonds
O and N of backbone are electronegative
alpha helix
Delicate coil held by Hbonds
beta pleated sheet
2 or more regions lie parallel to each other
MyShared

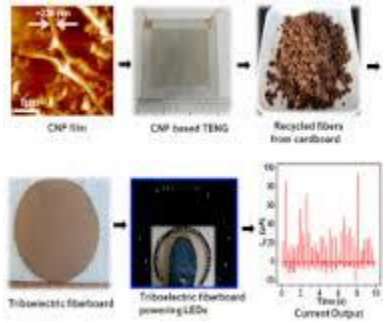




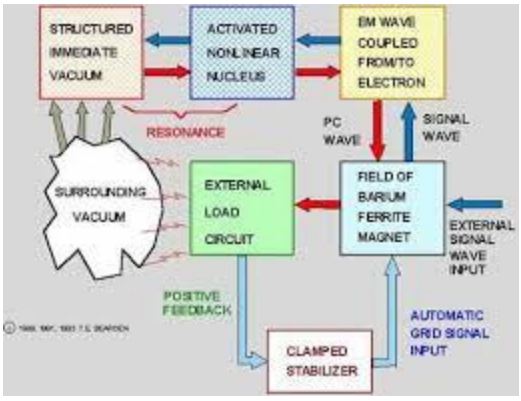




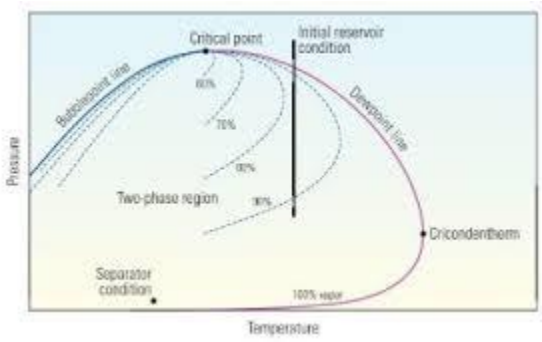


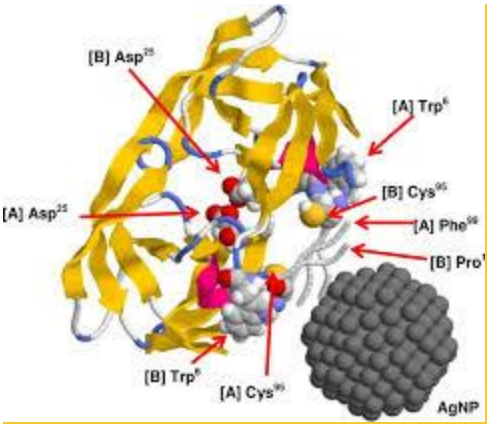


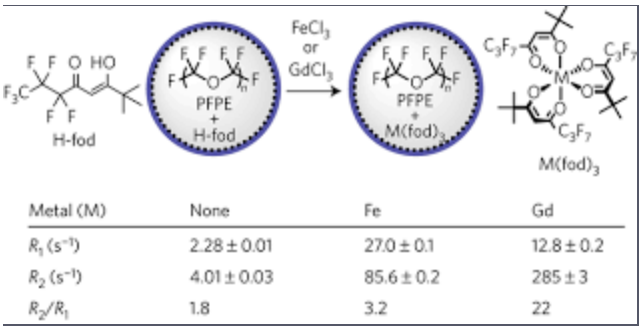




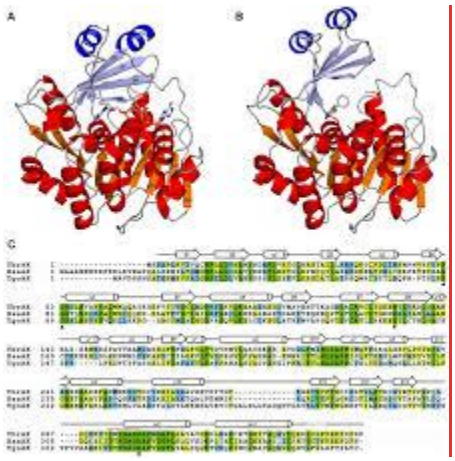
European Journal of Orthodon

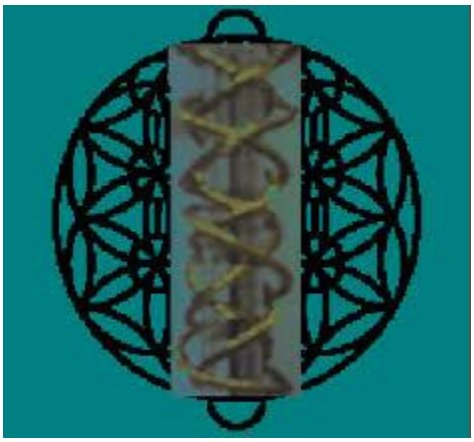


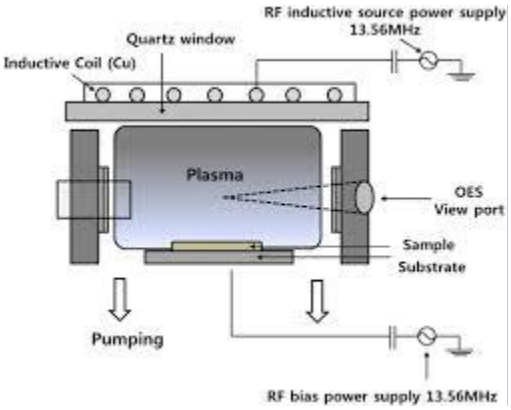


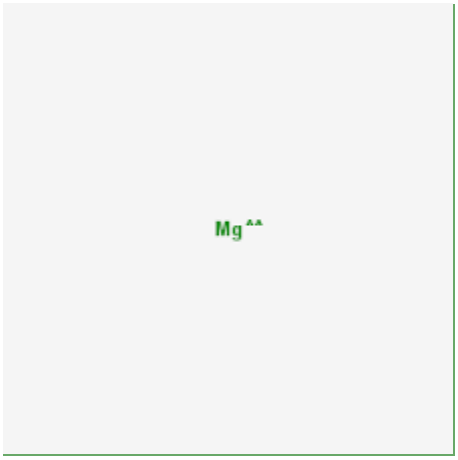


Metal (M)	None	Fe	Gd
R_1 (s^{-1})	2.28 ± 0.01	27.0 ± 0.1	12.8 ± 0.2
R_2 (s^{-1})	4.01 ± 0.03	85.6 ± 0.2	285 ± 3
R_2/R_1	1.8	3.2	22





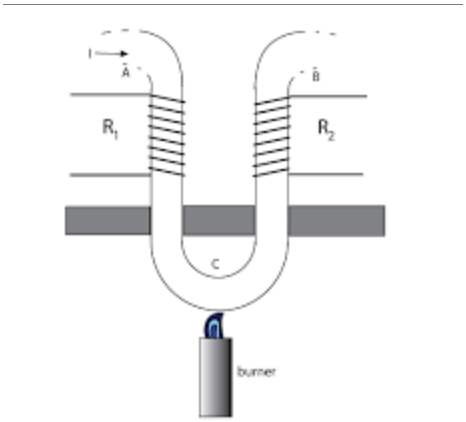








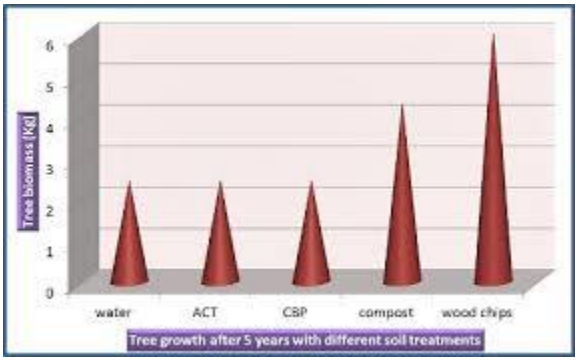
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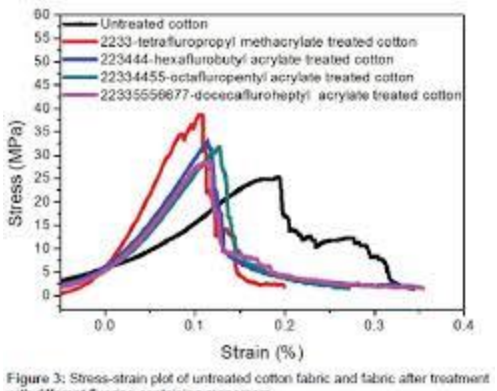
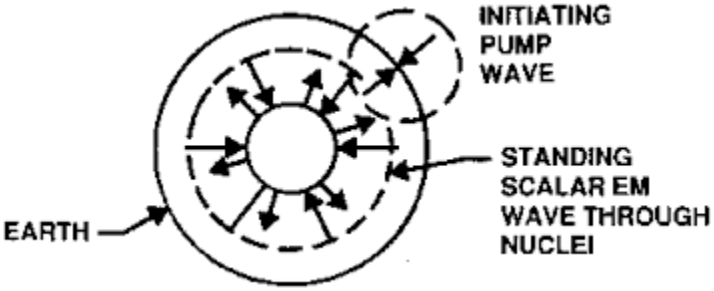
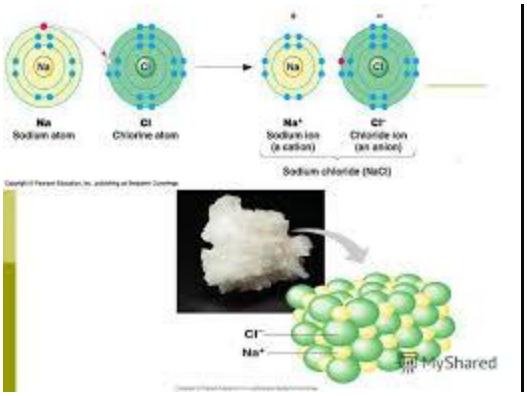


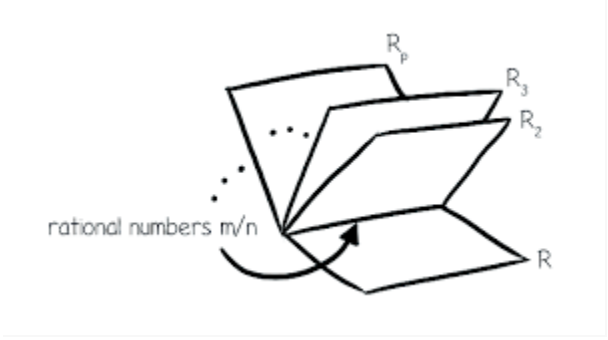
Figure 3: Stress-strain plot of untreated cotton fabric and fabric after treatment with different fluorine-containing monomers



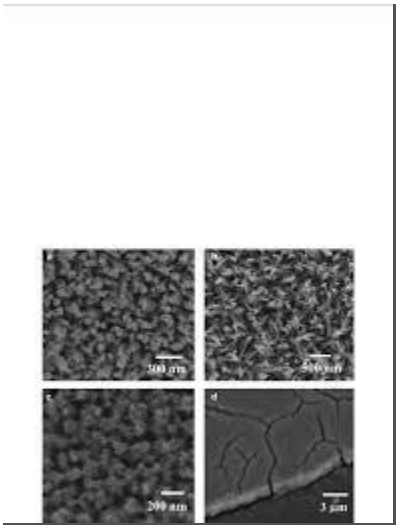






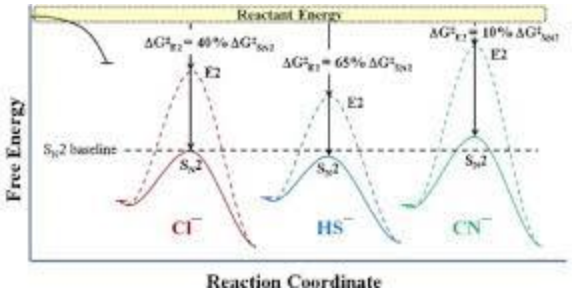


	Freundlich isotherm						Langmuir isotherm					
	K_F (mg/kg)		1/n		b (mg/kg)		k (L/mg)		MBC (L/kg)		Av. desorption (%)	
	Sulfate	Nitrate	Sulfate	Nitrate	Sulfate	Nitrate	Sulfate	Nitrate	Sulfate	Nitrate	Sulfate	Nitrate
HA_1	273.2	269.8	0.0293	0.0256	248.2	250.1	3.82	4.87	951	1217	3.19	3.1
HA_2	274.2	274.0	0.0284	0.0284	250.1	250.1	4.33	4.49	1083	1120	3.35	3.4
HA_3	256.8	257.4	0.0336	0.0346	229.2	229.2	3.29	3.38	756	777	4.04	3.9
HA_4	269.7	269.4	0.0194	0.0185	254.5	254.5	9.78	9.83	2500	2500	2.25	2.2
HA_5	270.3	270.3	0.0248	0.0252	250.5	252.2	5.42	6.17	1365	1560	3.07	3.0
HA_6	269.9	267.7	0.0248	0.0214	250.1	250.1	5.05	9.73	1263	2444	3.07	3.0
FA_1	249.0	247.8	0.0372	0.0342	219.1	222.5	2.76	3.43	606	768	4.16	3.9
FA_2	258.2	243.5	0.0387	0.0368	220.6	223.9	2.72	3.05	600	682	4.32	4.2
FA_3	257.9	256.3	0.0331	0.0366	227.4	227.4	3.27	3.02	743	686	4.20	4.0
FA_4	256.2	268.3	0.0315	0.0275	244.2	244.2	3.85	4.47	939	1090	3.88	3.8
FA_5	250.2	258.8	0.0298	0.0276	227.3	227.3	3.67	3.71	833	844	3.93	3.9
FA_6	252.0	258.8	0.0327	0.0276	236.4	238.2	3.66	5.88	870	1402	4.12	4.0
s.e.	5.46	5.7	0.0011	0.0017	3.87	3.7	0.53	0.56	142.00	145	0.136	0.0
CD at 5%	10.15	16.72	0.0032	0.0051	11.34	10.9	1.55	1.64	417	427	0.370	0.2

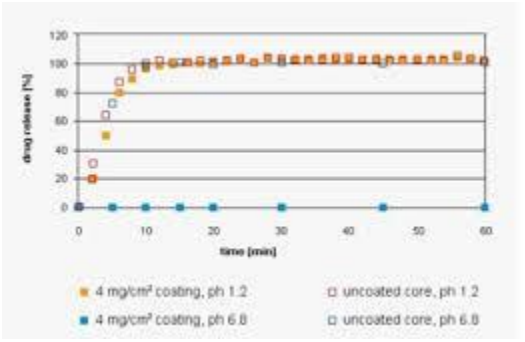




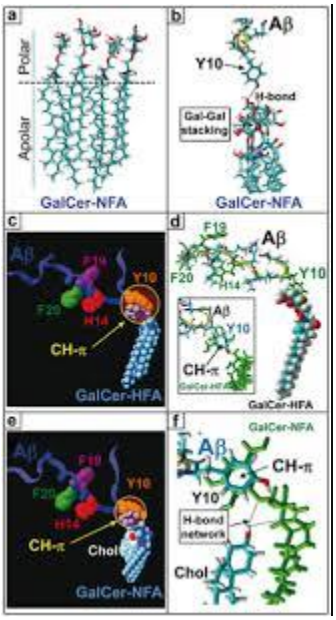


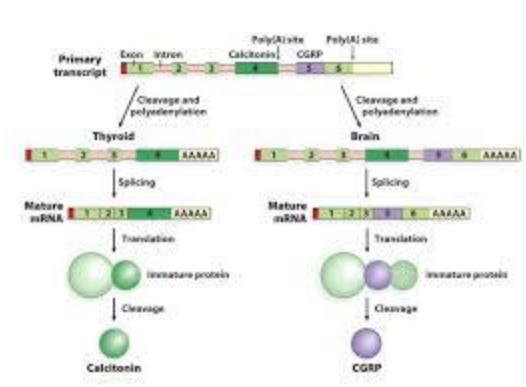












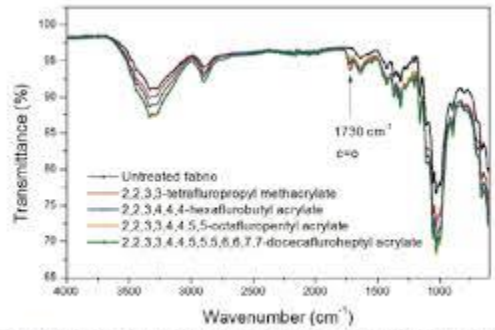
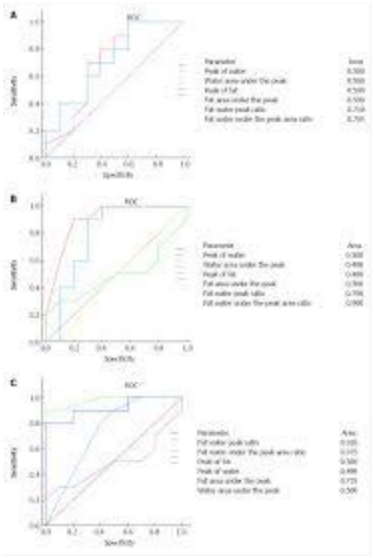
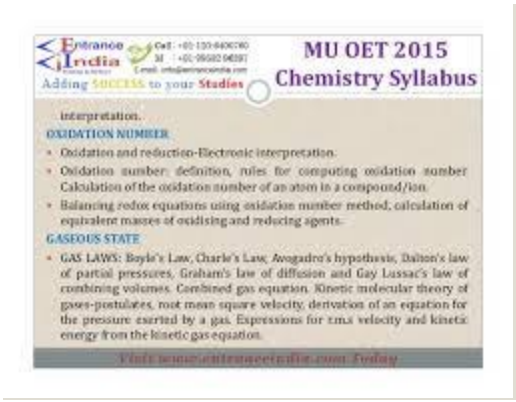


Figure 1: FTIR spectra of initial cotton fabrics treated with fluorine-containing monomers.











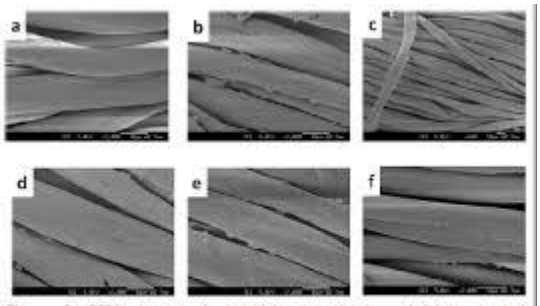


Figure 2: SEM pictures of a) initial cotton fabric and fabrics treated with b) 2,2,3,3-tetrafluoropropyl methacrylate c) high resolution of b), d) 2,2,3,4,4,4-hexafluorobutyl acrylate e) 2,2,3,3,4,4,5,5-octafluoropentyl acrylate f) 2,2,3,3,5,5,5,6,6,7,7-dodecafluoroheptyl acrylate





COVALENT BOND

bond formed by the *sharing* of electrons

Date	Time (Aproximate to 10 minutes, more or less)	Weighted (Aproximate to 500g, more or less)	Normal Weight	Type of Scale	Report Number
03/08/00	23h 40m	43.248Kg	41.600Kg	Electronic	1-8-00
12/08/00	02h 20m	43.876Kg	41.600Kg	Electronic	1-8-00
19/08/00	00h 25m	5 Kg	41.600Kg	Mechanical	2-8-00
21/08/00	00h 50m	7.200Kg	41.600Kg	Mechanical	3-8-00
22/08/00	04h 10m	4.700Kg	41.600Kg	Mechanical	4-8-00
27/08/00	00h 20m	5.300Kg	41.600Kg	Mechanical	5-8-00
29/08/00	01h 35m	5.600Kg	41.600Kg	Mechanical	6-8-00
"/"/""	" "	78.800Kg	41.600Kg	Mechanical	6-8-00
11/10/00	22h 40m	41.500kg	42Kg	Mechanical	1-10-00
15/10/00	02h 20m	6.100Kg	42Kg	Mechanical	2-10-00
16/10/00	03h 0m	5.200Kg	42Kg	Mechanical	3-10-00
17/10/00	00h 25m	5.900Kg	42Kg	Mechanical	4-10-00
19/10/00	05h 10m	3.800Kg	42Kg	Mechanical	5-10-00
23/10/00	04h 45m	3.600Kg	42Kg	Mechanical	6-10-00
27/10/00	01h 40m	4.300Kg	42Kg	Mechanical	7-10-00
29/10/00	02h 50m	5.300Kg	42Kg	Mechanical	8-10-00
09/11/00	01h 40m	3.200Kg	42Kg	Mechanical	1-11-00
10/11/00	03h 10m	00000Kg	42Kg	Mechanical	2-11-00
19/11/00	00h 35m	00000Kg	42Kg	Mechanical	3-11-00
23/11/00	04h 40m	4.300Kg	42Kg	Mechanical	4-11-00
27/11/00	00h 10m	4.900Kg	42Kg	Mechanical	5-11-00
29/11/00	01h 40m	4.200Kg	42Kg	Mechanical	6-11-00

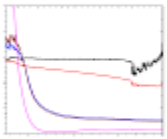


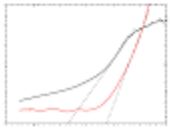
•Precession arises due to the interaction of spin and the gravitational force acting downwards. This is the reason why only a spinning top will precess; where as a static top will topple over.

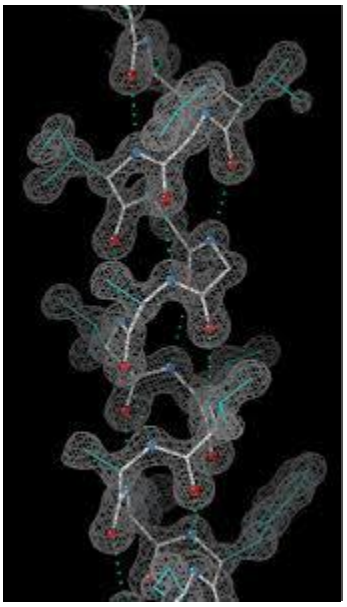
•Since the proton is a spinning magnet, it will precess around the axis of an applied external magnetic field. It will precess in two main orientations.

•Aligned or parallel with the field-low energy.

•Opposed or anti parallel to the field-high energy.











❑All nuclei carry a charge. In some nuclei this charge spins on the nuclear axis and this circulation of nuclear charge generates a magnetic dipole along the axies.

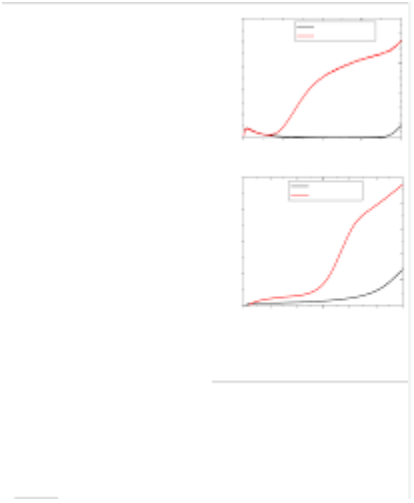
❑The nuclei of atoms are composed of protons and neutrons. Like electrons, these particle also have the properties to spin on their own axis and each of them possesses angular momentum1/2(h/2π)

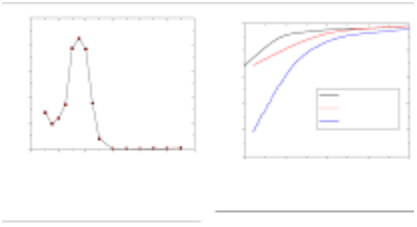
in accordance with the quantum theory. The net resultant of the angular momentum of all nuclear particles is called ***nuclear spin.***

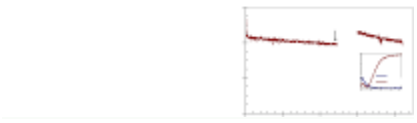
❑For a nucleus having a spin quantum number I, these are(2I +1) spin states.

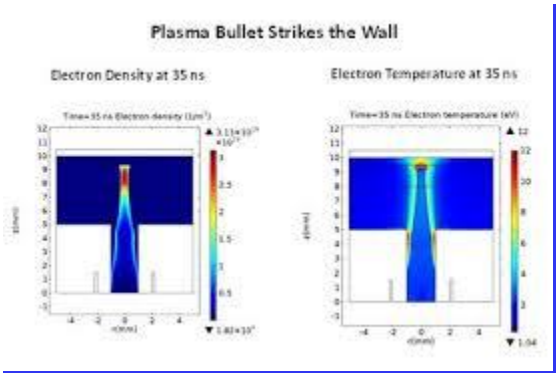

SCIENTIFIC METHOD
PURPOSE
State the problem.
RESEARCH
Find out about the topic.
HYPOTHESIS
Predict the outcome to the problem.
EXPERIMENT
Develop a procedure to test the hypothesis.
ANALYSIS
Record the results of the experiment.
CONCLUSION
Compare the hypothesis to the experiment's conclusion.





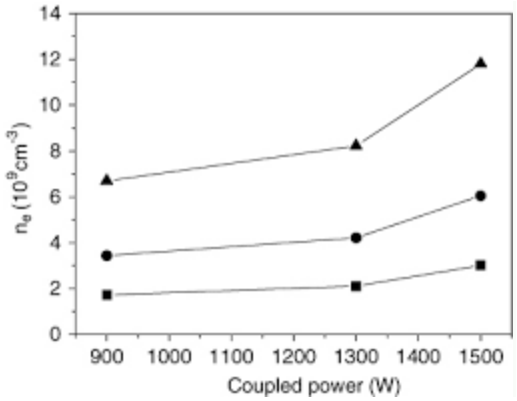


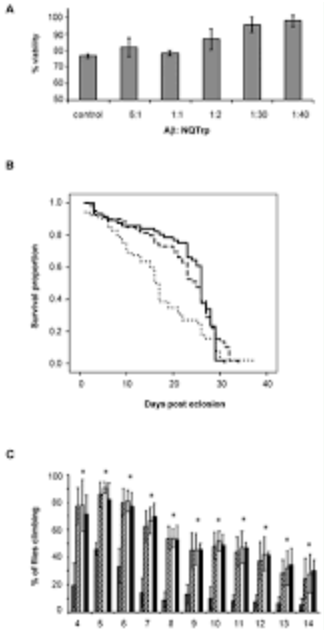



Plasma Bullet Strikes the Wall
Electron Density at 35 ns
Electron Temperature at 35 ns



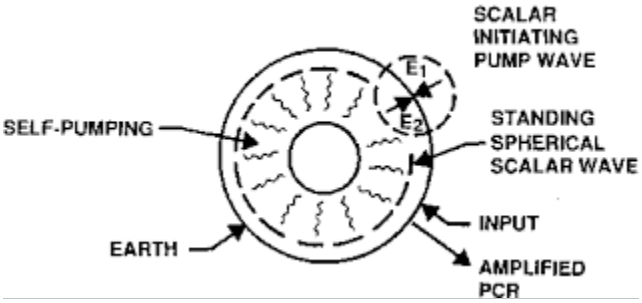


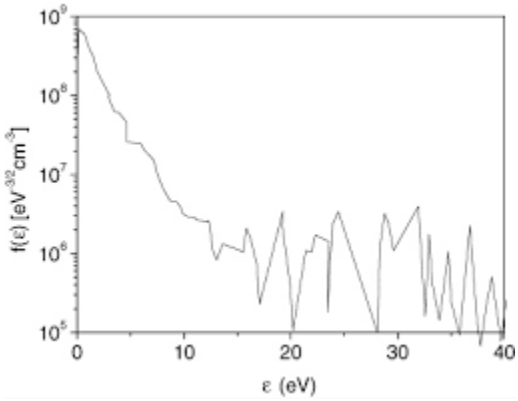


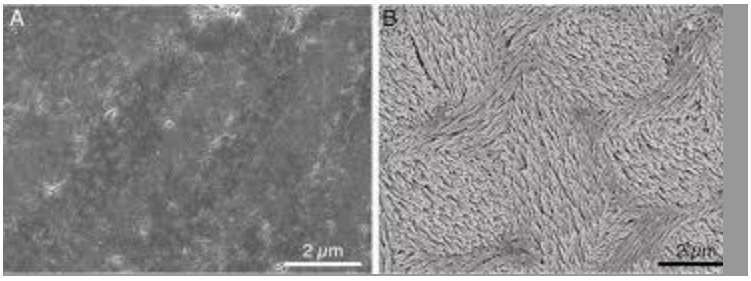


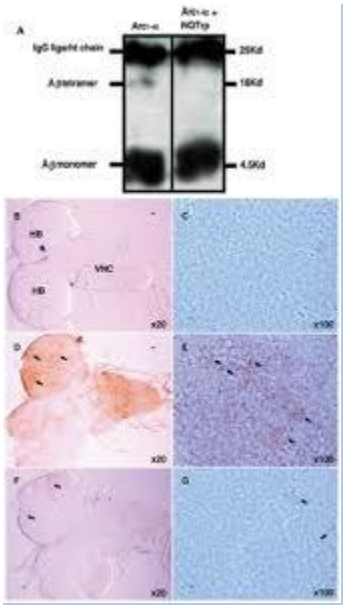


[NOTE: STANDING/PUMP WAVES ARE WHITTAKER WAVES]







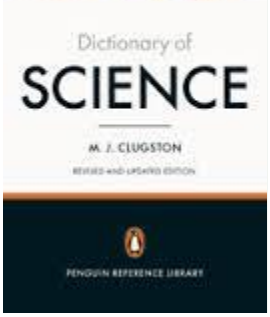


Lipid	V_i (mN.m^{-1}.min^{-1})	$\Delta\Pi_{max}$ (mN.m^{-1})
GalCer-HFA	0.266 ± 0.023	12.2 ± 0.9
GalCer-HFA:cholesterol (1:1; mol:mol)	0.031 ± 0.004	3.2 ± 0.2
GalCer-NFA	0.033 ± 0.004	1.5 ± 0.1
GalCer-NFA:cholesterol (1:1; mol:mol)	0.107 ± 0.008	10.4 ± 0.6
GalCer-C12	0.091 ± 0.008	2.1 ± 0.1
GalCer-C12:cholesterol (1:1, mol:mol)	0.117 ± 0.009	12.2 ± 1.2
Cholesterol	0.000 ± 0.000	1.0 ± 0.1
PS:cholesterol (1:1, mol:mol)	0.000 ± 0.000	1.4 ± 0.1
LacCer-C8	0.114 ± 0.009	2.6 ± 0.2
LacCer-C8:cholesterol (1:1, mol:mol)	0.335 ± 0.028	16.7 ± 1.2
GM3	0.169 ± 0.013	4.1 ± 0.3
GM3:cholesterol (1:1, mol:mol)	0.254 ± 0.019	10.1 ± 0.7
GM1	0.085 ± 0.007	6.3 ± 0.6
GM1:cholesterol (1:1, mol:mol)	0.161 ± 0.014	9.8 ± 0.7
GalCer-HFA subphase NaCl 0.1 M	0.555 ± 0.046	18.4 ± 1.3
GalCer-HFA subphase NaCl 1 M	0.822 ± 0.077	21.3 ± 1.8
GalCer-HFA subphase NaF 0.1 M	0.078 ± 0.005	3.1 ± 0.2
GalCer-HFA subphase NaF 1 M	0.000 ± 0.00	0.0 ± 0.0

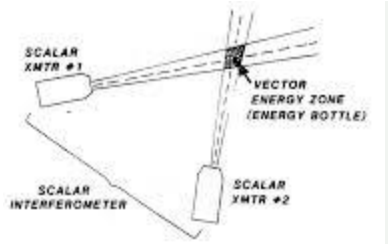
Each monolayer was prepared at initial pressure (π_i) of 13–15 mN.m^{-1}. The synthetic $A\beta_{1-40}$ peptide was injected in the subphase which consisted of pure water or, when indicated, of NaCl or NaF solutions. Each experiment was performed in triplicate. The data are expressed as the mean ± SD (n = 3). An initial v_i with a null value means that there is no increase in the surface pressure over the 20 first minutes of incubation.

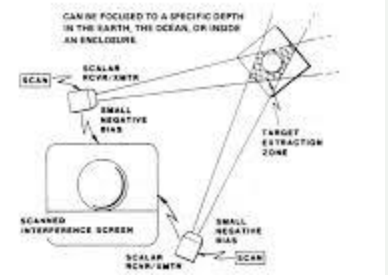
doi:10.1371/journal.pone.0009079.t002



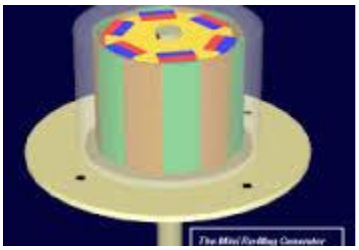










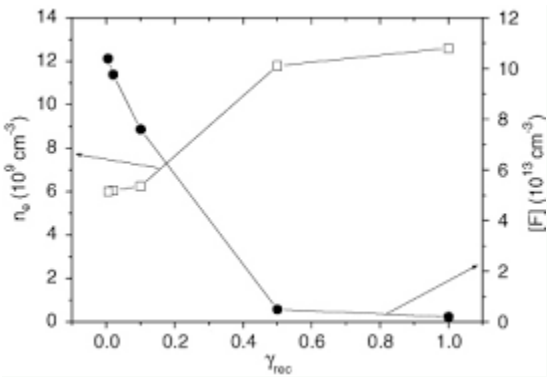


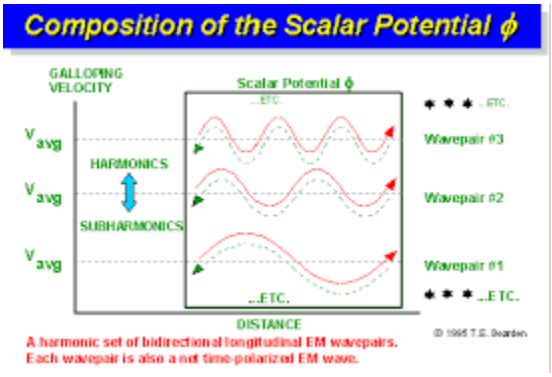


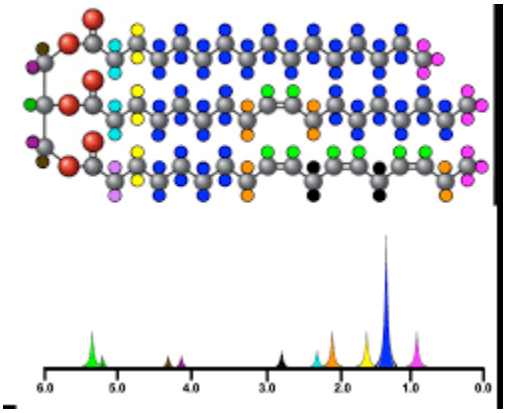


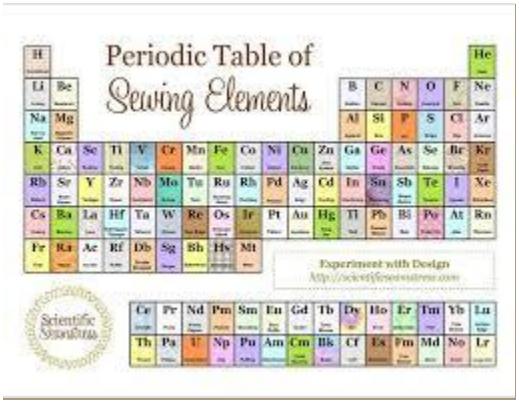

FLAME TEST COLOURS


TASA


n_e (10^9 cm^{-3})
[F] (10^{13} cm^{-3})
γ_{rec}

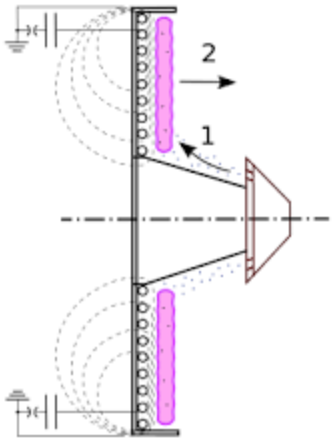

Composition of the Scalar Potential ϕ
GALLOPING VELOCITY
Scalar Potential ϕ
V avg
HARMONICS
SUBHARMONICS
Wavepair #3
Wavepair #2
Wavepair #1
...ETC.
DISTANCE
A harmonic set of bidirectional longitudinal EM wavepairs.
Each wavepair is also a net time-polarized EM wave.




Periodic Table of
Sewing Elements
Experiment with Design



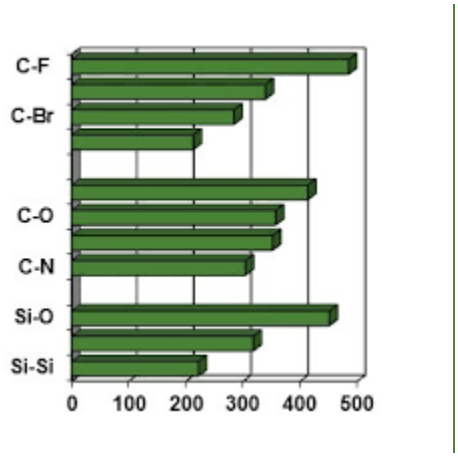

A LIFETIME OF SILENCE
BEHIND THE GREEN DOOR

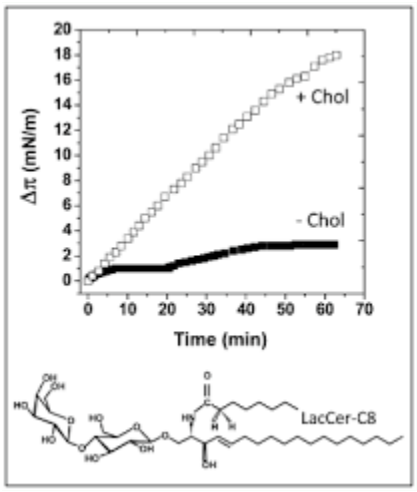


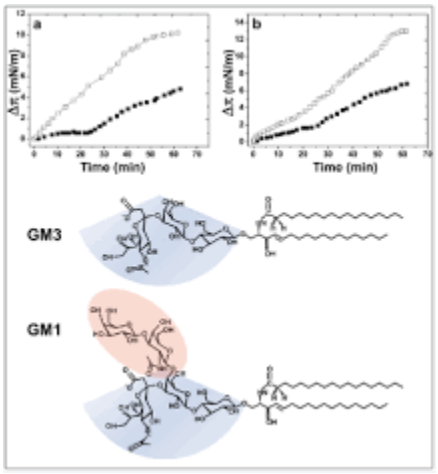




6 days ago







❖ The standard reference substance used universally is **TETRAMETHYLSILANE (TMS)**, the standard reference is also known as **Internal Standard.**

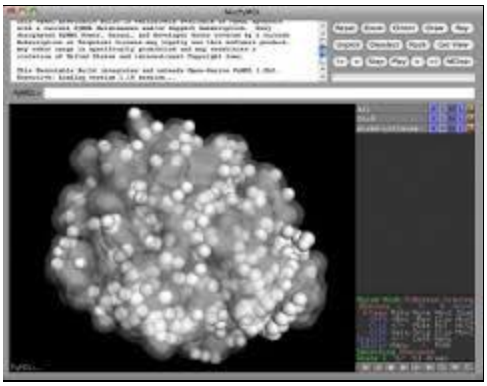
$$\text{Chemical Shift, ppm } \delta = \frac{\text{Shift from TMS in Hz}}{\text{Spectrometer frequency (MHz)}} \times 10^6$$

Eg: for CH_2Br protons, chemical shift from TMS = 162Hz in a 60 MHz instrument and 270Hz in a 100 MHz instrument. Calculate δ value.

$$\delta = 162\text{Hz} / 60\text{ MHz} = 270 / 100 = 2.7\text{ppm}$$

Hence, δ Value remains same irrespective of the spectrometer.





REFERENCE STANDARDS

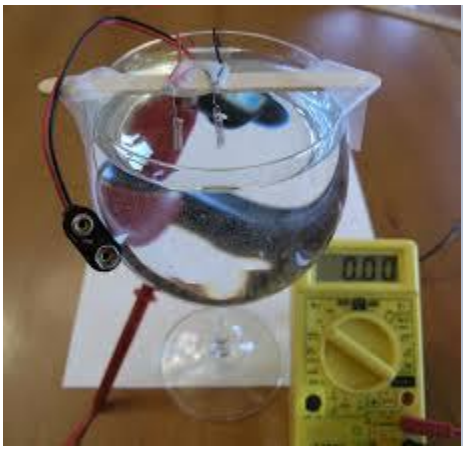
CHARACTERISTICS:-

- ✓ Chemical inertness
- ✓ Magnetically neutral
- ✓ Gives single sharp peak
- ✓ Easily recognizable peak
- ✓ Miscible with wide range of solvents
- ✓ Volatility –to facilitate recovery from valuable samples



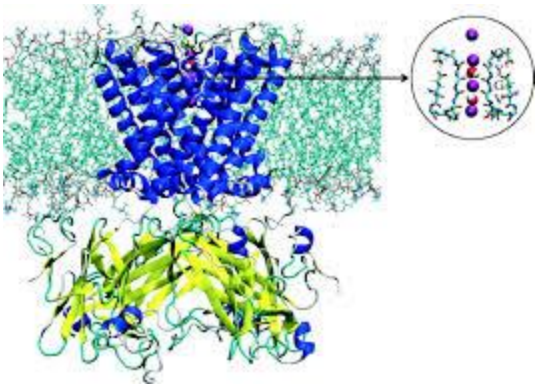


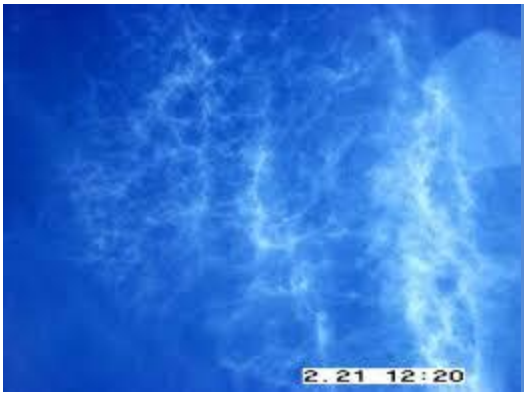


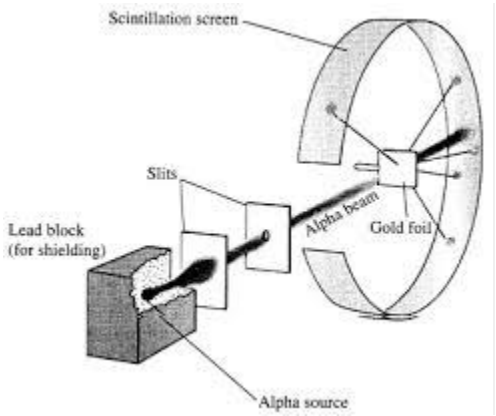




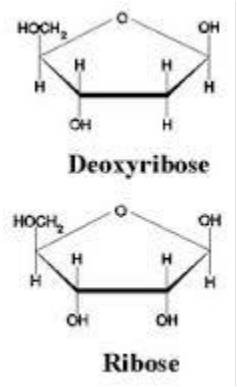


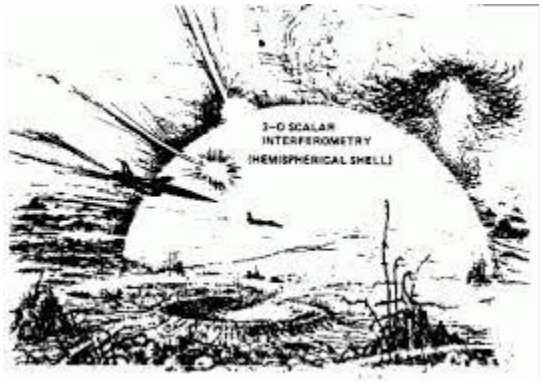


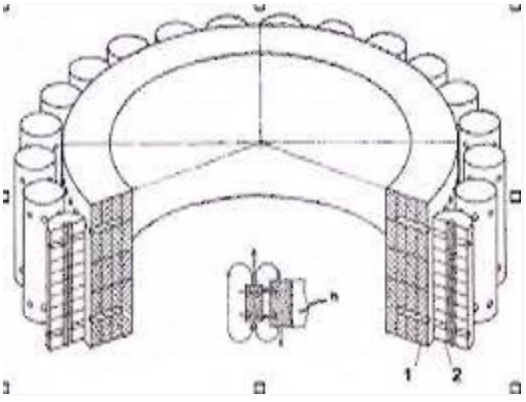

2.21 12:20


Scintillation screen
Slits
Alpha beam
Gold foil
Lead block
(for shielding)
Alpha source

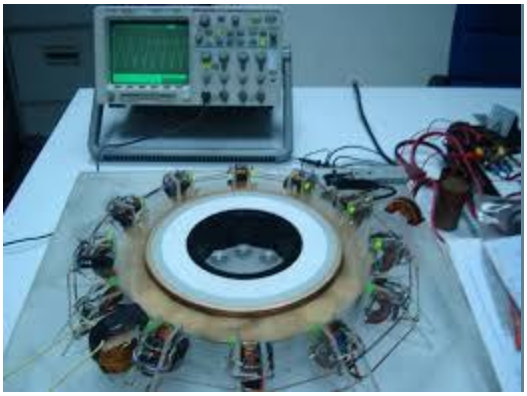



HOCH2
O
OH
H
H
H
H
OH
H
Deoxyribose
HOCH2
O
OH
H
H
H
H
OH
OH
Ribose


3-D SCALAR
INTERFEROMETRY
(HEMISPHERICAL SHELL)

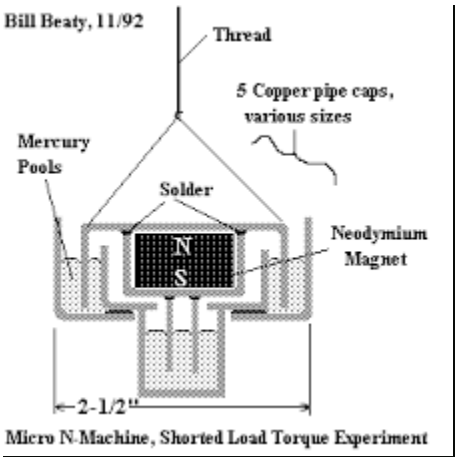

1
2


GENES
DNA
replication:
transcription:
translation:
mutations:
dna technology:
cell life cycle:
mitosis:
meiosis:



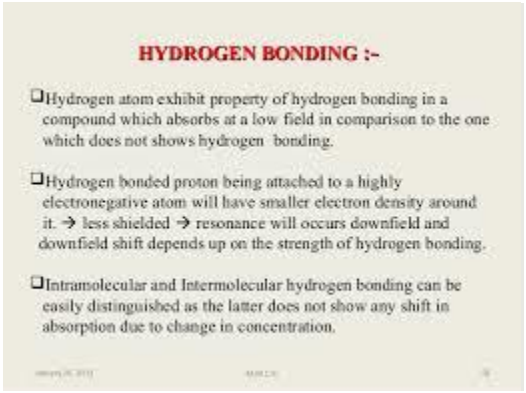


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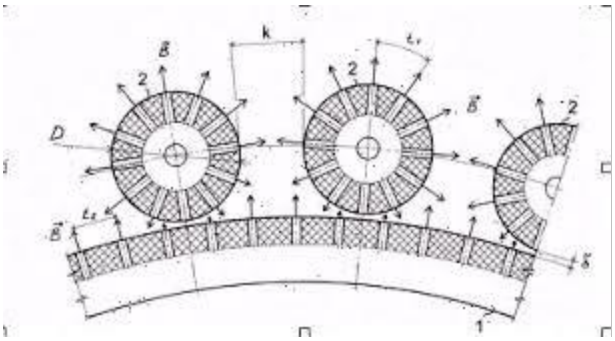




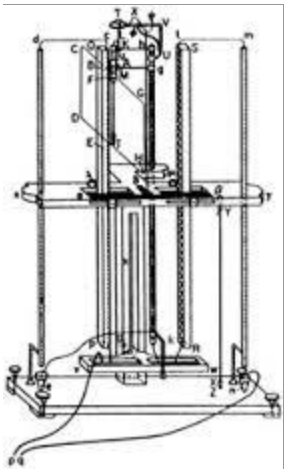
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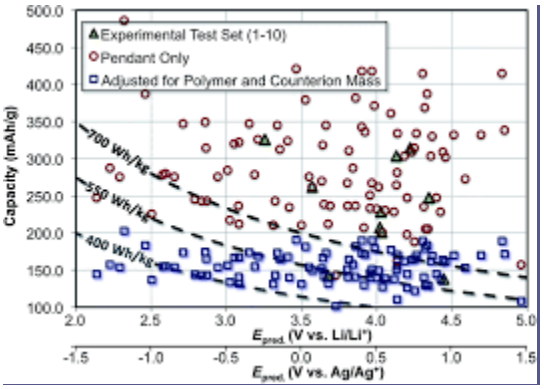


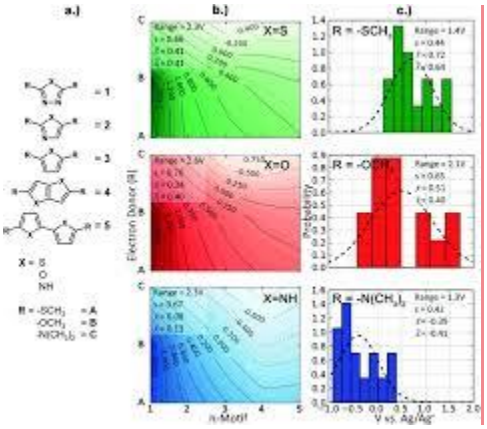


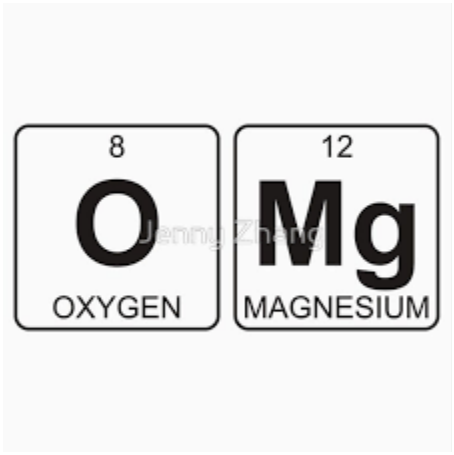





AIG


Experimental Test Set (1-10)
Pendant Only
Adjusted for Polymer and Counterion Mass
700 Wh/kg
550 Wh/kg
400 Wh/kg
Capacity (mAh/g)
$E_{prod.}$ (V vs. Li/Li+)
$E_{prod.}$ (V vs. Ag/Ag+)

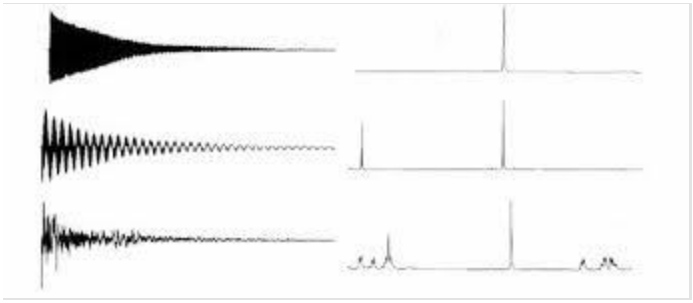

a.)
b.)
c.)
X=S
X=O
X=NH
R = -SCH3
R = -OCH3
R = -N(CH3)2
n-Mono
V vs. Ag/Ag+

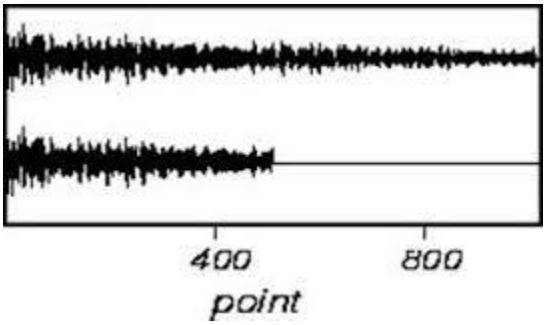

8
O
OXYGEN
12
Mg
MAGNESIUM

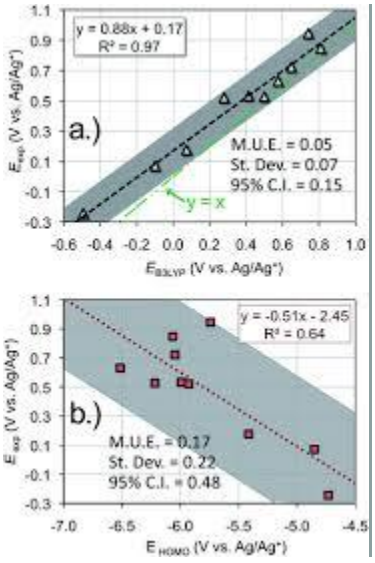



4-4413 Long Island, NY Montauk Beach
AERIALS ONLY (508)295-5551 (c) E

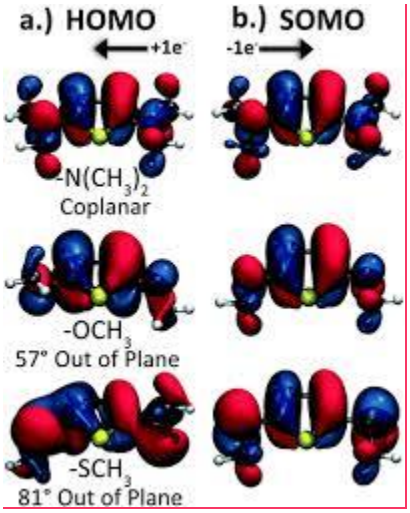





400
800
point


y = 0.88x + 0.17
R² = 0.97
a.)
M.U.E. = 0.05
St. Dev. = 0.07
95% C.I. = 0.15
y = x
E B3LYP (V vs. Ag/Ag+)
y = -0.51x - 2.45
R² = 0.64
b.)
M.U.E. = 0.17
St. Dev. = 0.22
95% C.I. = 0.48
E HOMO (V vs. Ag/Ag+)


openstax COLLEGE


a.) HOMO
b.) SOMO
+1e-
-1e-
-N(CH3)2
Coplanar
-OCH3
57° Out of Plane
-SCH3
81° Out of Plane

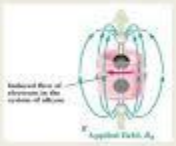

openstax COLLEGE





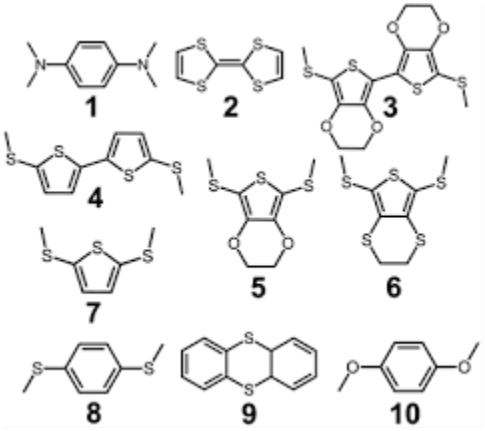


- All groups in a molecule that have π electrons generate secondary anisotropic fields.
- In Acetylene the magnetic field generated by induced circulation of the π electrons has a geometry such that the acetylenic hydrogens are shielded. Hence acetylenic hydrogens have resonance at higher field.

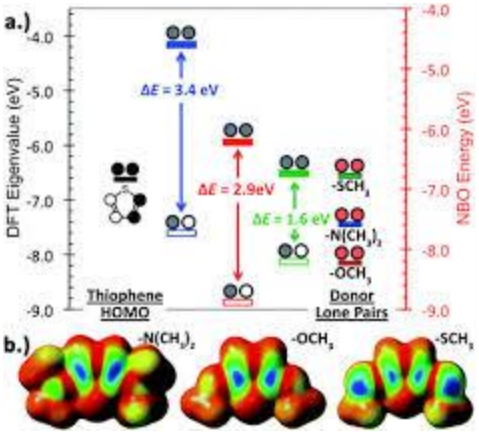


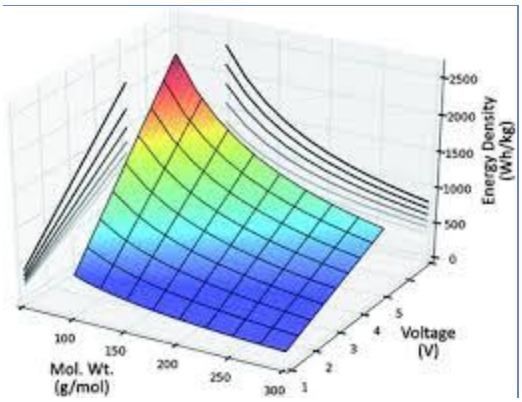
Diamagnetic anisotropy in Acetylene

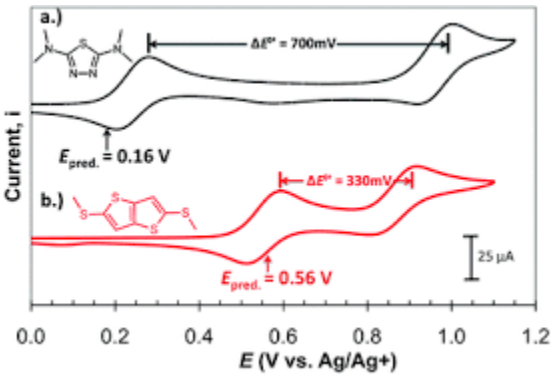
$$\frac{P_{ev}}{V_{ICP}} = n_e\left(\sum_{j,l}\varepsilon_{j,(+,l)}k_{j,(+,l)}n_j + \sum_{j,l}\varepsilon_{jl}k_{jl}n_j + \sum_j \frac{3m_e}{M_j}T_e k_{j,el}n_j\right),$$








Energy Density (Wh/kg)
2500
2000
1500
1000
500
0
Mol. Wt. (g/mol)
100
150
200
250
300
Voltage (V)
1
2
3
4
5


a.)
ΔE° = 700mV
E pred. = 0.16 V
b.)
ΔE° = 330mV
E pred. = 0.56 V
25 µA
Current, i
0.0
0.2
0.4
0.6
0.8
1.0
1.2
E (V vs. Ag/Ag+)